THE

MEDICAL EXAMINER.

CONTENTS OF

NO. V. VOL. X.—NEW SERIES—MAY, 1854.

ORIGINAL COMMUNICATIONS.

Cases of Obscure Disease of the Lung. By F. W. Lewis, M. D., - 257

A case of Chronic Pneumonia following Inflammatory Rheumatism. By O. C. Gibbs, M. D., Perry, Lake Co., Ohio, - - - 265

On a Substance found in the Brain and Spinal Marrow of Man, presenting the Chemical Reaction of Cellulose. By R. Virchow, 267

Mortality of Philadelphia, for January, February and March, 1854, collated from the record kept at the Health Office. By Wilson Jewell, M. D., - - - - - - - - - - 272

BIBLIOGRAPHICAL NOTICES.

Pneumonia: Its supposed connection, Pathological and Etiological, with Autumnal Fevers; including an Inquiry into the Existence and Morbid Agency of Malaria. By R. La Roche, M.D., &c., &c. (Continued,) - - - - - - - - 282

A Treatise on Venereal Disease. By A. Vidal (de Cassis,) Surgeon of the Venereal Hospital of Paris; Author of the Traité de Pathologie Externe et de Médicine Opératoire, etc., etc. With Colored Plates. Translated and Edited by Geo. C. Blackman, M. D., Fellow of the Royal Medical and Chirurgical Society of London, etc. etc., - - - - - - - - - 302

Comparative Anatomy. By C. H. Siebold and H. Stannius. Translated from the German, and Edited with Notes and Additions by Waldo J. Burnett, M. D., - - - - - - - 308
Transactions of the American Medical Association, - - - 313

EDITORIAL.

American Medical Association, - - - - - - - - 316

RECORD OF MEDICAL SCIENCE.

Report of Eighteen Cases of Pemphigus. Under the care of Dr. Bennett, Mr. Skey, and Mr. Startin, - - - - - 317
Abstract of Meteorological Observations for March, 1854, made at Philadelphia, Pa. By Prof. James A. Kirkpatrick, - - 320

NOTICE TO CORRESPONDENTS.

Communications and Books for notice should be addressed to the Editors, care of Messrs. Lindsay & Blakiston.

Letters, &c., connected with the *business affairs* of the Journal should be addressed to the Publishers.

Papers for publication must be received *before* the 16th of the month, or they cannot appear in the forthcoming number.

The following Journals have been received in exchange:
Medical News, April.
American Journal of Pharmacy, May.
New York Medical Gazette, April.
New York Medical Times, ditto.
American Medical Monthly, ditto.
New York Journal of Pharmacy, ditto.
New Jersey Medical Reporter, ditto.
Wilson's American Lancet, ditto.
Boston Medical and Surgical Journal, (weekly.)
Buffalo Medical Journal, ditto.
Virginia Stethoscope, ditto.
New Hampshire Journal of Medicine.
St. Louis Medical and Surgical Journal, March.
Nashville Journal of Medicine and Surgery, March.
Southern Medical and Surgical Journal, ditto.
New Orleans Medical News and Hospital Gazette, ditto.
Western Journal of Medicine and Surgery, March.
Upper Canada Journal, April.
Montreal Medical Journal, ditto.
Medical Reporter, (Chester,) ditto.
Dental News Letter, ditto.
Family Dental Journal, March.
North-Western Medical and Surgical Journal, ditto.
Kentucky Recorder, ditto.
Memphis Medical Recorder, ditto.
London Pharmaceutical Journal, ditto.
London Lancet.
London Medical Times and Gazette.
Dublin Medical Press.

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BOOKS AND PAMPHLETS RECEIVED.

Types of Man, by Drs. Nott and Gliddon.
Essay on Chronic Pleurisy, by A. Flint.
Clinical Report on Dysentery, by A. Flint.
History of the Epidemic Yellow Fever, by E. D. Fenner, M. D.
Report on the Asiatic Cholera, by G. Sutton, M. D.
Priority in Medication of the Larynx, &c., by H. Green, M. D.
Eleventh Annual Report of the New York State Lunatic Asylum.

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The foreign correspondents of the Examiner will please direct their Exchanges, Books for review, and other communications, to the care of Trubner & Co., No. 12 Paternoster Row, London, or Mr. H. Bosange, 21 Bis, Quai Voltaire, Paris.

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THE

MEDICAL EXAMINER.

NEW SERIES.—NO. CXIII.—MAY, 1854.

ORIGINAL COMMUNICATIONS.

Cases of obscure Disease of the Lung.

By F. W. Lewis, M. D.

The peculiar interest which attaches to the diagnosis of pulmonary diseases, together with the obscurity in which the subject is still involved, even with all the aids furnished by modern science, have induced the writer to report the following cases, all of which came under the observation of distinguished practitioners. Although the subjoined cases might be deemed examples of chronic pneumonia, a disease occasionally met with among the poorer classes in this city, and as such hardly meriting to be brought to the notice of the profession, yet he thinks that on a close examination they will be found to present complications novel and unusual in that affection; and which, in the one case preceding and the other following it, served to mask the symptoms, and render a correct diagnosis very difficult if not impossible.

Case 1.—Martha Moore, æt. 7, (Twelfth street above South,) of scrofulous habit and antecedents, was attacked about the middle of September, 1851, with symptoms of pleurisy, which from neglect and want of proper medical advice terminated in a pleuropneumonia of the right side. When first seen by me, on the 4th of October, she presented the following symptoms:—consid-

erable emaciation, sallow semi-cyanosed tint, short dry cough, intense dyspnœa, with constant tendency to syncope. The prostration was extreme; pulse averaged 135 per minute, very feeble and irritable; respirations 45. The physical signs consisted in absolute dulness on percussion over the right side of the thorax, both anteriorly and posteriorly; very feeble respiration at the apex of the lung, passing beneath the spine of the scapula into a coarse crepitation, below this point total absence of respiratory murmur; tubal breathing in the right interscapular space. The left lung afforded no indications of disease. The heart was in its normal position and the sounds were healthy. The patient remained in much the same condition up to the 23d, daily losing flesh, and suffering from most distressing difficulty of breathing, amounting during most of the time to orthopnœa. Occasionally she expectorated small quantities of exceedingly tough mucus, tinged with blood, and not unfrequently during the paroxysms of cough syncope would supervene. About this date respiration ceased to be heard at any point of the right lung, and the dulness on percussion was absolute. A muco-serous diarrhœa set in, and the patient had repeated and exhausting hemorrhages from the nose. By the first of November emaciation had progressed to a painful degree. She had constant hectic and profuse night sweats. The orthopnœa continued urgent, and from a constant habit of sitting propped up in bed, considerable lateral deviation of the spine to the right had taken place. Soon after this a peculiar and unnatural prominence of the anterior and lower part of the right thorax was noticed, the intercostal spaces retaining their normal appearance. But little attention was at first paid to this phenomenon, which continued to increase, until by the latter part of November, the actual difference by measurement between the right and left side, at the base of the thorax, amounted to two inches and a half, causing a deformity the more remarkable from the apparent contraction of the upper portion of the chest. By the middle of December this swelling had attained considerable dimensions, projecting forwards, outwards, and downwards, and presenting an abrupt upheaval of the parietes of the chest from about the third rib down to the base.

At this date (January 5th) the disease appeared to have

reached its acme, the difference between the two sides being over three inches. The patient had wasted nearly to a skeleton, had profuse night sweats and exhausting diarrhœa, coughed incessantly, occasionally expectorating blood in small quantities. The physical signs were modified by the appearance of a mucous râle under the clavicle and posteriorly at the base of the lung—but otherwise no change was noted.

About the middle of January the patient began to improve. The color and appetite returned in a measure. The dyspnœa became less urgent. Gradually, as convalescence set in, the diarhœa, hectic and night sweats disappeared. Respiration became audible at the posterior inferior part of the lung, but not anteriorly, slowly extending upwards without the supervention of râles of any kind. It was not before the 1st of May that the health of the patient was completely restored, and the lung had resumed its full functions. The prominence of the anterior wall of the chest, though much diminished, was still obvious, and returned a dull sound on percussion, and it was at least two months later before all traces of the local disease had disappeared.

The treatment of the case throughout was essentially tonic, being mainly directed to sustaining the vital forces of the patient. Counter-irritation was resorted to in various forms. It was while under the use of cod liver oil and a strong ointment of iodine, advised by Dr. W. E. Pepper, (to whom the writer is indebted for many valuable suggestions in connection with the diagnosis and treatment of the case,) that the first symptoms of amendment began to manifest themselves. The subnitrate of bismuth proved particularly valuable in moderating and finally arresting the diarrhœa when all other remedies had failed.

The most interesting feature of the above case is the strong probability of the existence of a large scrofulous tumor at the anterior and lower part of the right thoracic cavity. In hastily reviewing the symptoms, there are two points which seem more specially to support this view, viz.: the peculiar circumscribed prominence of the walls of the thorax at the anterior and lower part, and the non-obliteration of the intercostal spaces; and these taken in connection with the history of the physical signs during the progress of the case, leave but little room for doubt. To any one who has observed the comparative frequency of thickening

and deposit of false membranes in the pleura pulmonalis of children after attacks of pneumonia, (more especially when a scrofulous diathesis prevails,) a thickening sometimes amounting to nearly half an inch, it will not appear remarkable that the constitutional tendency should further modify these morbid products even to the development of such a tumor as the above. The final recovery of the patient after such a protracted and apparently hopeless complication of diseases is also a point of great interest.

Case 2. Mary Tiernay, æt. 35, seamstress, of delicate constitution and nervous temperament, in the month of December, 1852, had an attack of acute articular rheumatism. During the course of this the heart became implicated. This affection was at the time supposed to be endocardial, being characterized by considerable disturbance of the respiration, a livid hue of face, irregular and tumultuous action of the head, distant souffle and great prostration. It was treated by blistering, cupping and mercurials. The acute symptoms soon declined, and by the first week of January she had regained her usual health, complaining only of slight oppression and weight over the precordial region, and frequent attacks of palpitation after active exertion. At this time auscultation revealed a rough double bellows murmur over the sternum, disappearing towards the apex of the heart. This was referred to the aortic valves, but from the great turgescence of the veins of the neck and face, the livid tint and good radial pulse it was thought not improbable that there might be a coexisting disease of the valves of the pulmonary artery. During the ensuing month she was several times examined and the same phenomenon always found present. Dr. F. W. Sargent, by whom the case was seen, also discovered that the respiration over the right side was relatively feebler than over the left, but on questioning the patient it did not appear that she had ever suffered from an affection of the corresponding lung.

With these exceptions, nothing to cause uneasiness was noticed up to the morning of the 2d of February, 1853, when, on going up a flight of stairs, the patient was suddenly seized with intense dyspnœa, accompanied by an insupportable feeling of tightness and oppression over the heart and a deadly faintness. During the day she continued in a very critical condition, having several

alarming attacks of syncope. Next day, when I saw her, she presented the following symptoms: Livid, cyanosed tint; cool, moist skin; sunken eyes; orthopnœa; short, dry, frequent cough; hurried and irregular respiration, with an exceedingly feeble pulse, about 125 per minute; complained of deep seated sense of uneasiness over the right side; great precordial oppression and extreme weakness. On examination, the right side of the chest was found not to expand with inspiration, and returned a relatively flat sound on percussion. By ausculting, very little if any respiration could be heard over the same side, while on the left, the breathing was exaggerated and almost bronchial throughout. On applying the ear over the heart, its sounds were found tumultuous and irregular, but perfectly sharp and clear; *all traces of the pre-existing bellows murmur had disappeared.*

The symptoms were met by cupping, sinapisms, and nervous stimuli. A large blister was subsequently applied over the right side, without, however, any amendment resulting. For a week the orthopnea and prostration remained stationary, perhaps rather increased; the dulness on percussion also became more decided, and respiration ceased to be heard in the lung, except in the subclavicular space, where a feeble murmur was audible.

A month nearly had elapsed before the system had sufficiently reacted to accommodate itself to the profound lesion of the respiratory apparatus; and during this period the patient was never able to lie upon her back.

About the middle of March a change for the better became perceptible, the strength began to return, and the dyspnœa ceased to torment her to the same extent; but the local lesion as evidenced by the physical signs, underwent no modification. From that date up to the present, a period of over 13 months, the lung has remained in much the same condition, presenting the same absolute dulness and nearly total absence of all respiration, except under the clavicle. The patient's health is feeble and precarious, but she is able to attend to her household work without material inconvenience.

It is not without some hesitation, and a consciousness that in the absence of all direct proof such an hypothesis can possess merely a speculative interest, that the writer ventures to advance the opinion that this was probably an instance of consolidation

or collapse of the lung, resulting from obstruction and partial obliteration of the right pulmonary artery by an organized coagulum, or other morbid deposit, detached from the right side of the heart, and washed by the current of circulation into that vessel. Of the possibility of such an accident there can hardly be a question; and a careful investigation of the history of the case, its symptoms and physical signs, will, he thinks, if not prove, at least show the probability of its occurrence.

In briefly reviewing the leading points of the case, we find the primary affection to have been rheumatic endocarditis, ending in deposit of lymph within the ventricles, and giving rise to a rough bellows murmur indicative of some valvular affection; not, however, materially interfering with the circulation or protracting convalescence. The lungs at this time are healthy, with the exception of slightly feeble respiratory murmur on the right side, a circumstance giving rise to no suspicion of disease there. A month nearly has elapsed, allowing time for the organization of the morbid inflammatory product, and the patient has regained her customary health, when she is suddenly attacked with the most alarming dyspnœa, and at the same time with signs of profound lesion of the respiratory organs, while the abnormal bruit, until then distinctly audible, finally disappears.

From these symptoms it seems not unreasonable to infer the detachment of a coagulum or morbid growth from the valves, which till then it had partially obstructed.

Almost immediately a suspension of the function of the right lung is observed, and in less than a week's time nearly complete consolidation, or some condition analogous, has taken place, from which the lung has never recovered.

Admitting the probability of such a lesion as the above, an interesting question now suggests itself, as to what effect would most likely be produced by the presence of a firm coagulum, or any consistent organized product washed into the right pulmonary artery and causing an almost total obliteration of its calibre. Would pneumonia, pulmonary apoplexy, effusion or collapse be most likely to result?

In the admirable series of cases of obstruction of the pulmonary artery reported by M. Paget, (Medico-Chirurgical Transactions,) the primary cause of this lesion appears to have been

an obstruction of the capillary circulation in a portion of the lung, a consequence of some co-existing disease of the left side of the heart, pneumonia, pulmonary apoplexy, or, finally, from some disease of the artery itself, productive of morbid fatty growths, deficient activity of circulation, or too great plasticity of the blood forming its coagulation. In other respects these cases present points of difference so essential as to render any reasoning from analogy impossible. Of course all speculations on such a question must necessarily be vague and unsatisfactory; yet the idea may be hazarded that all the known conditions present were favorable to the production of collapse of a large portion of the lung. The violent shock to the brain and nervous system reacting on the nerve force of the lung, together with the suddenly-arrested circulation through the pulmonary artery and its branches, in the absence of any coincident affection of the left side of the heart and of the pulmonary capillaries, or loss of contractile power in these last, must necessarily have reduced the amount of blood in the vascular network of the air-cells to a very inconsiderable quantity. Now, inasmuch as the walls of the pulmonary vesicles depend in a great degree for their proper tension and support on the capillaries, collapse of the lung, more or less complete, might not unreasonably be expected to result from the state of partial vacuum in these vessels, above suggested.

In the following case is described a condition of the lung somewhat similar, but originating in an entirely different cause.

Case 3.—Michael Welsh, æt. 24, laborer, was admitted into the Pennsylvania Hospital on the 26th of December, 1849, having on the previous day, while intoxicated, fallen from a bridge, a distance of twenty feet, on the ice, striking upon his head. Previous to the accident his health had been good. On the evening of the day of his admission, symptoms of cerebral inflammation set in, and next morning the extreme lividity of face, labored, suspirious breathing, and a short, dry cough, excited attention to the condition of the respiratory organs. At this time the respiratory murmur over the right side of the chest was found very feeble, and there was slight relative dulness on percussion over the same side. The same day the patient became comatose. The pulse was now observed to be exceedingly

slow—55 per minute—and respiration very labored, averaging certainly not more than 8 or 10 per minute. By the evening of the next day little or no respiratory sound was audible in the right side, and the dulness on percussion was very marked. At the same time no r le could be detected at any point of the lung, nor did the breathing appear at all bronchial or exaggerated on the opposite side. No change occurred up to the first of January, six days after admission, when the patient sunk exhausted.

On opening the head, a fracture involving the right temporal bone, and extending obliquely through the petrous portion into the carotid foramen was found. In the right foramen lacerum existed a clot about the size of a walnut, which compressed the pneumogastric, extending for some distance along its sheath. Around this coagulum were traces of inflammatory action, particularly about the point of origin of the posterior nervis.

Unfortunately no examination was made of the lung.

This observation is satisfactory, as it clearly shows that under certain circumstances of disease, a lesion of the par vagum of one side may give rise to alteration, if not suspension of the functions of the corresponding lung. This view was maintained by Wilson, Philip, Magendie and Swan, who found, as the result of experiments on inferior animals, that pneumonia, œdema or paralysis invariably followed section of one of the vagi.

A later observer, Dr. John Reid, arrived at directly opposite conclusions, after a very elaborate and carefully conducted series of observations. In summing up, he expresses his conviction "that a lesion of one of the pneumogastrics does not necessarily or even generally induce disease of the lung on that side." The experiments of these distinguished physiologists were mainly confined to section of the nerve in the lower animals, the organization of whose nervous system is proportionately less delicate, and whose recuperative power is much greater than in man, and moreover, in whom there existed no complication of disease as in the above case.

A case of Chronic Pneumonia following Inflammatory Rheumatism. By O. C. GIBBS, M. D., Perry, Lake Co. Ohio.

Chronic pneumonia is doubtless a rare disease, whether considered as occurring idiopathically, or as a sequel of the acute form of pneumonic inflammation. That it may occur as a sequel of rheumatic inflammation I was not aware, until the following case came under my observation.

January 8th, 1850, I was consulted by E. Rawdon, aged 25 years, a muscular farm laborer, for a gradually increasing ailment of several weeks' duration. His symptoms were a slight cough, without pain in the chest sufficient to occasion complaint, considerable dyspnœa, which was much increased by exertion, a bluish paleness of the countenance, the leaden appearance of which was increased by exertion and exposure to cold, and an increased frequency of pulse, with more decided febrile symptoms towards evening. The appetite was impaired, though by no means lost, and he had strength only to walk about his apartment or ride in an easy carriage.

Auscultation revealed an entire absence of the respiratory murmur, and percussion gave entire dulness throughout the whole of the right lung, excepting the upper third.

Several weeks (the exact length of time is not remembered) before consulting me, he had been attacked with and treated for what his physician called a rheumatic inflammation of the right knee joint. This difficulty very soon disappeared, simultaneous with which the dyspnœa and slight cough manifested themselves, with slight pain at first, and the other symptoms above enumerated were gradually superadded.

His medical adviser, though a very good physician, being unacquainted with the art of physical diagnosis, was evidently at a loss to know how to account for the symptoms, and this diagnostic indecision found a counterpart in the lack of therapeutic efficiency.

The following treatment was ordered:

℞. Tinct. Cimicifugæ, f.℥vj.
Potassii Iodid., ʒj.

M. Dose, a teaspoonful twice a day, morning and noon, and one of the following pills at bedtime:

℞. Hydrarg. Iodid., gr. xv.
Ant. et pot. Tart., gr. v.
Ext. Hyoscyam., gr. l.

Mix ; and make into thirty pills.

In addition to the above treatment, a large blister was applied to the affected side, and the body ordered to be washed every night in whiskey and water.

At the end of a week the gums became tender, after which the iodide of mercury was given only as was necessary to maintain undiminished the slight mercurial impression. The antimony and hyoscyamus were, however, continued at bedtime, and the iodide of potassium as directed in the formula given above. Blisters were continued at weekly intervals to the affected side of the chest. Coincident with the manifestation of the mercurial impression, the expectoration, from being very slight, became quite profuse, muco-purulent in character, and more or less streaked with blood. This change in the character and quantity of the expectoration very much alarmed the patient and his friends, though accompanied with evidences of improvement.

The mercurial impression was kept up for ten weeks, by an occasional pill of iodide of mercury, aided by mercurial inunction to the chest. During the same time, the iodide of potassium was given, and blisters repeated at weekly intervals, when the patient was discharged; but in consequence of some remaining dulness upon percussion, the mixture as given above, was advised to be continued for a few weeks longer, with antimonial counter irritation to the chest.

The patient living nearly twenty miles from my residence, was not seen again for more than a year, at which time he seemed as healthy as ever, and the chest, on examination, gave no evidences of previous disease.

In pneumonic hepatization, whether resulting from acute or chronic inflammation, so far as my experience goes, no internal medicines equal in efficacy the combined action of mercury and iodine ; aided, as all medicines should be in such cases, by repeated blisters.

On a Substance found in the Brain and Spinal Marrow of Man, presenting the Chemical Reaction of Cellulose. By R. VIRCHOW. (Archiv. f. Path. Anat., VI. 1.)

(Translated for the Examiner.)

It is well known that Charles Schmidt was the first who noticed in the Ascidians, as a constituent of animal tissue, the "cellulose" which previously had only been observed in plants. The researches of Kölliker, Lowig, Schacht, and Huxley soon confirmed this important discovery. Thus, although cellulose was proved to exist in the animal kingdom, its occurrence was confined to but comparatively a low class of the invertebrated animals, and the further discovery, which Gottlieb made in the Euglena viridis, viz., that this infusorium contained paramylon, a substance isomeric with starch, did not much advance our knowledge of the prevalence of the cellulose, as it also had reference to a creature from the lowest classes of the animal kingdom. In the vertebrated animals nothing similar had been met with, and it needed the discovery of Bernard, that the liver generated sugar, to remind us of the fact that perhaps the starchy substances, too, might have their representatives in the higher classes of the animal kingdom.

In a histological point of view it has often occurred to me that the umbilical cord in man possessed a great similarity in its structure to the cellulose in the Ascidians. (See Wurzb. Verhandlungen, 1851, Vol. ii. p. 161, note.) And I was the more confirmed in this idea by Schacht's observation, so that ever since my researches have been more carefully directed to this subject. But in most instances I searched in vain, as in the ova of amphibia and fishes, the peculiar yelk-plates of which I described. (Zertschrift fur Wiss. Zoologie, 1852, Vol. iv. p. 240.) I was more successful, however, recently, when I directed my attention to the so-called "corpora amylacea"* of the brain, of the exact nature of which, as compared with the other starch-like bodies in man, I had not been able to form any very definite conclusions. I soon found that on the application of iodine they

* These corpora amylacea are small yellowish bodies, not unlike starch granules. They were first mentioned by Purkinje, and are found mainly in the walls of the ventricles and medullary substance of the cord.—Tr.

assumed a bluish tint, and in subsequently adding sulphuric acid, the exquisite violet color, which is known to belong to cellulose, and which appeared the more intense as it formed a distinct contrast to the yellow or brown nitrogenous substances around it. I have so frequently repeated these investigations, and with so many precautions, that I consider the results as perfectly certain. For I have instituted comparative researches not only in different human bodies, and in the most different situations, but I have allowed the reagents employed to act under all possible conditions. The best way to proceed is to follow the plan pursued by Mulder and Harting for vegetable cellulose, (see Moleschott's Physiologie des Stoffwechels, p. 103,) which consists in adding first a hydrated solution of iodine, and subsequently dilute sulphuric acid. The solution of iodine must not be too strong, as otherwise we are much impeded by the precipitation of the iodine; but great care must be exerted in allowing it to act properly on the substance in question. This action is generally a very unequal one, on account of the volatility of the iodine, and its great affinity for animal substances, so that it frequently happens that the edge of the object is colored and not the centre, or that in two continuous spots one is penetrated by the iodine, the other not. It is, therefore, always advisable to repeat the application of the iodine several times, without adding too much at once. If the action has been too powerful, the subsequent addition of sulphuric acid will produce a dark reddish-brown color. The most certain manner to proceed is to allow the sulphuric acid to act very slowly. The most beautiful preparations, indeed, I obtained by adding a drop of sulphuric acid to the edge of the thin glass covering a preparation, and allowing it then to remain undisturbed from twelve to twenty-four hours. I have under these circumstances been sometimes able to see the most beautiful light violet blue produced. I think it, finally, necessary to mention that an accidental admixture of starch or cellulose might frequently happen, as little fibres or particles might remain adherent from the cloths with which the glasses are cleaned, which would react in the above described manner. Every precaution having been taken, the following results may be obtained:—

1. The corpora amylacea are chemically different from the

concentric spherical corpuscles of which the brain sand is composed, and with which they have hitherto been confounded. The organic basis of these brain-sand granules is evidently nitrogenous: iodine and sulphuric acid color it an intense yellow. The same is true not only of the sandy matter in the pineal gland and the choroid plexuses, but also of that of the Pacchionian granulations, and of the dura mater, as well as of the dentated plates in the spinal arachnoid. In all these parts, except in a few spots in the pineal gland, I have never obtained the characteristic blue reaction. It would, therefore, be henceforth advisable to restrict the term "corpora amylacea" to these cellulose corpuscles.

2. These cellulose corpuscles are found as far as my present researches go, only in the substance of the ependyma* of the ventricle and its prolongations. In this I include the lining of the ventricles of the brain, and the transparent substance in the spinal marrow, described by Kölliker as the "substantia grisea centralis." As regards the ventricles of the brain, I have repeatedly stated that I have found them lined with a membrane belonging to the class of fibrous tissue, and covered with an epithelium. This membrane contains fine cellular elements and a basis substance sometimes of a firm, sometimes of a softer consistence, which is prolonged inwards between the nervous elements without any distinct limitation. In the deepest layers of this membrane, and in close proximity to the nerve fibres, these cellulose granules are most frequently met with, and there again more especially where the ependyma is thickened. They are, therefore, very numerous on the septum lucidum, fornix, stria cornea, and in the fourth ventricle. In the spinal cord the substance which corresponds to the ependyma lies in the middle of the gray mass, in the exact situation where the spinal canal exists in the fœtus. It forms here evidently a rudiment of the obliterated canal, similar to the obliteration of the posterior cornua of the lateral ventricles, so frequently met with. In transverse sections of the cord this substance is easily recognizable as a gelatinous, somewhat resistant, but easily isolated mass, the cells

* The term "ependyma" is used to designate that portion of the lining of the ventricles, of the anterior and posterior cornua, which is not a continuation of the pia mater.—Tr.

of which are much larger and more perfect than those of the cerebral ependyma. But as these cells have been already accurately described by Kölliker, I need not here mention them further. This "spinal ependyma" forms a continuous gelatinous filament, which extends to the *filum terminale*, and might, therefore, be more suitably described as the *central ependyma* filament. In it, also, we find cellulose granules, but more frequently, it seems, in the upper than in the lower portion. In all other situations I have as yet looked for these cellulose granules in vain, and in particular have I been unable to detect them in the cortical layer of the brain, or in the interior of the cerebral substance.

3. As from the experiments of Cl. Bernard, who produced sugar in the urine of a rabbit by wounding the fourth ventricle, there was reason to suppose that this fact might be connected with the existence of cellulose, I examined the brain of the rabbit carefully, but in vain. I found here in the fourth, as well as in the third and in the lateral ventricles, a beautiful pavement epithelium with long cilia, but no cellulose.

4. The cellulose granules seem hence to be connected with the presence of the ependyma substance in certain quantities, and might not improperly be considered as a part of it. But how they are produced from it, it was impossible to recognise. They are unusually minute, scarcely corresponding in size to the nuclei of the ependyma. Can they originate from these? The larger they are the more distinctly laminated they appear. But they do not exhibit anywhere a nitrogenous admixture, distinguishable by its yellow color. Their centre only is generally of a darker blue, and hence, perhaps, denser than their border.

5. The supposition of these bodies being introduced from without is the less probable, because a similar substance is nowhere else known. The cellulose in plants exhibits a number of varieties, but this animal cellulose is distinguishable above all by its slight resistance towards reagents; for concentrated acids and alkalies act on it more powerfully than on vegetable cellulose.

6. In the child I have searched for this animal cellulose in vain, so that, like the brain-sand, it seems to appear in a later stage of development, and may, therefore, perhaps have a pathological import.

Since writing the above, I have repeated and confirmed these observations, and have ascertained in addition, that similar bodies exist in the higher nerves of sense. I found them most abundant in the soft grayish interstitial substance of the olfactory nerve, less frequent in the acoustic, although Meissner's observation (vide Zeitsch. f. Nat. Med. N. F., Vol. iii. p. 358, 363,) would seem to indicate in their situation a proportionately great disposition to their formation. In the optic nerve, Rokitansky appears already to have observed them, and Kölliker informs me, in a novel communication, that he has met with them in the retina. As above-mentioned, the ependyma is prolonged without distinct boundaries between the nervous elements. In the higher nerves of sense, too, I found a continuous extension of a similar substance in the interior of these nerves. This fact, taken in connection with a number of pathological observations, the details of which will be given another time, compels me to infer that a soft substance, in the main belonging to fibrous-tissue, transverses and connects everywhere the nervous elements in the centres, whilst the ependyma is only the free portion extending over the surface of the nervous elements. The opinion that the epithelium of the ventricles is situated immediately on the nervous elements, seems to have been based on a confusion of the interstitial substance with the nerve-substance proper.

I have as yet not been able to isolate the corpora amylacea in sufficient numbers to subject them to a chemical analysis, yet no doubt can possibly be entertained as to their cellulose nature. No other substance is known which reacts in the same manner, and although I have tested the most various animal tissues, and examined all the other concentric bodies that I have met with lately, (as those in the thymus gland and in tumors,) I have found nothing similar. Although it would be very desirable to have a direct proof by analysis, that these bodies contain no nitrogen, we can yet, even without further evidence, consider their analogy with the vegetable cellulose as a settled fact.

(To be continued.)

Mortality of Philadelphia, for January, February and March, 1854, *collated from the record kept at the Health Office.* By WILSON JEWELL, M. D.

The total of deaths for January, February and March of the present year, on record at the Health Office, amounts to 2580. This embraces a period of 91 days, or 13 weeks; and averages 28⅓ deaths daily, or, to the population, estimating the same 415,000 as 1 to every 160.85. An increase of 4 per cent. over the deaths for the like period of 1853.

Exclusive of Still Born, External or Accidental causes, Old Age, Debility and Unknown, we have left 2140 deaths from recorded diseases, distinguished by 148 different names; many of them, it is true, almost as indefinite and as obscure for scientific purposes, as those set down under the head of debility or unknown.

The loose and imperfect plan of certification in cases of death is justly to be deplored; nor until there is a more discriminate system substituted for the present *generalizing* practice, can we have for reference an intelligible and profitable record. This vagueness of certification is not peculiar to Philadelphia; it prevails in other large cities, and has been elsewhere made the subject of remark. The City Inspector of New York, in his annual report to the Board of Aldermen, of the deaths in that city for 1852, complains of the want of precision on the part of physicians in assigning the causes of death, and suggests that the civil authorities should "early authorize some initiative step in the acquisition" of a measure which would enable him to furnish "yearly statements with an accuracy and fullness of detail, from which might be gathered a comprehensive and credible knowledge of all the occurrences of mortality presented for record."

Desirable as this change is, I am persuaded that no *dictum* of law can effect it. If ever we have a comprehensive and reliable registration of deaths, it must be done by the united sanction of the medical profession. Who are, or who ought to be interested in the perfecting of this branch of science, more than the members of the medical staff? They have both the ability and the means at hand to accomplish the desired end. But I am sorry to add, they lack the energy or the will to carry it out. The

most stringent legal enactments on this head may be evaded, if they have not the approval of the profession. The best proof of this opinion is, that although we have on our statute book a "Registration act," it is neither obeyed nor honored. A dead letter on the legal record, it had far better be repealed, or else so modified that it may receive the approbation and enjoy the confidence of those whose duty it is and whose pride it should be to fulfil its laudable design.

The excess of deaths of males for the 1st quarter of 1854 is equal to 13 per cent. In the nervous diseases alone, it is equivalent to 35 per cent.

The excess of deaths among males prevails in most of the tables I have published since January, 1852. It is noticed also in the tables of other cities, thus giving it almost a fixed position in mortuary statistics.

Infantile mortality maintains its excess over more advanced life. The astounding number of deaths under one year, compared with the whole for the quarter, is worthy of a careful examination into the causes thereof. 1175, equal to 48 per cent. of the whole, exclusive of still born, died before the 5th year. While 579 of these, equal to 23½ per cent., were under one year of life. Diseases of the nervous system furnish 191. The organs of respiration 136. Sporadic diseases 121, and those of an epidemic form, 61.

1389 of all the deaths, or 52 per cent., were under 20 years of age. This calculation does not include the still born.

TABLE No. 1 exhibits a classified arrangement of the deaths for the quarter. The deaths in February exceeded those in January by 27 per cent., while in March they fell off 21 per cent.

The endemic diseases show quite a falling off from those of the two preceding years; equal to 42 per cent. for 1852, and 27 per cent. for 1853. In 1852 Small Pox was prevailing to a great extent, last year the deaths from Scarlet Fever for the same period, more than doubled those for the present year.

The diseases of the Organs of Respiration are set down at 754, an advance of 21 per cent. over those for the same months in 1853. But the comparison between those for 1852 and this year for the like period is so trifling as to be undeserving of notice.

It is curious to observe the uniformity which prevails from

year to year, as to the total number of certain causes of death as registered for similar periods, for instance,

Unknown in 1852,	1st	quarter,	was	65.	In	1853,	61,	and in	1854,	62.
Digestive Organs	"	"	"	139.	"	"	146,	" "	"	149.
Integumentary System	"	"	"	4.	"	"	6,	" "	"	4.
External Causes	"	"	"	74.	"	"	87,	" "	"	88.
Urinary Organs	"	"	"	9.	"	"	14,	" "	"	14.

TABLE No. 2, CLASS 1st. The great falling off in Endemic and Epidemic diseases for this quarter over those for the same period of 1852 and 1853, especially in the exanthemata, is a subject for especial notice. Only 8 deaths from Small Pox, while in 1852 there were 258! Scarlet Fever furnishes 107, while last year, 1st quarter, there were 223. Croup 101, does not differ materially from last year. Measles has been very prevalent during January, February and March, but certainly very mild in its character, as only 21 deaths from it have been recorded.

Whooping Cough, which has prevailed to some considerable extent, gives 31 deaths. Quite an increase when compared with 7 in 1852 and 3 in 1853, 1st quarter of those years; accurate certification, however, might show a different result. Pulmonary and Cerebral affections frequently follow Pertussis, terminating in death, and are likely to be charged to other causes.

CLASS 2d. Sporadic diseases. The only thing worthy of note here, is, that Debility and Marasmus tend to make up nearly 3-5ths of the deaths recorded under this head, from 26 distinct causes, amounting in all to 292, while Marasmus and Debility furnish 169 of them.

CLASS 3. Nervous Diseases. As usual, Convulsions occupy a prominent position in this class; amounting to 178, or 33 per cent. of the whole number. Of these, 163 were under five years of age. The gradual increase of Convulsions from year to year is a subject that deserves the closest investigation. It possesses an interest extending far beyond the legitimate inquiry of the medical profession. The political economist, the philanthropist and the municipal authorities are all equally interested in solving the problem of the excess of infantile mortality in cities, of which Convulsions make up a very large proportion. A more enlarged cultivation of sanitary science, or the laws of health and life, by those who have the surveillance of our laws and ordinances, could not fail to be of incalculable advantage to the future well being of infant life.

Class 4th. Organs of Respiration. The mortality from this class of diseases, has increased 21 per cent. over that of a similar period for 1852. It is proper to observe, however, that last year there was a falling off of 20 per cent. below that for 1852.

Estimating the deaths from known diseases as recorded for the quarter, to be 2140, it will be found that this class constitutes 35 per cent. of the whole.

Consumption of the Lungs furnishes a high numeration in this table. It has credit for 385 deaths. Equal to 18 per cent. of the mortality from diseases, or 15 per cent. of the deaths from all causes. The excess of deaths from Consumption of the Lungs during this quarter was among males. Equivalent to 9 per cent.

Inflammation of the Bronchiæ and Lungs have produced 265 deaths; an increase of 32 per cent. over those for the 1st quarter of 1853. 30 per cent. of these deaths were in children within the 5th year. The severity of the past winter above that of 1852 and 1853 may be assigned as the cause for an increase of deaths from diseases of the respiratory organs.

Class 5th. There have been seventy-seven deaths from diseases of the Organs of Circulation; more than one-half, viz.: 42, are set down to "Disease of Heart." A proper term, but conveying very little information of a useful character, in the preparation of medical statistics. This generalizing is not peculiar to this class of diseases.

Table No. 3 gives the mortality at fifteen periods of life. By excluding the "Still Born," it appears that nearly one-half of all the deaths took place in infancy, or before the fifth year. That period of life between the ages of ten and fifteen seems to be the most healthy, contributing less than $1\frac{1}{2}$ per cent. to the mortality for the quarter. The decennial period, between twenty and thirty, in all the tables I have published, save one, furnish the greatest outlet to human life among the adult population. 168, or 7 per cent. of the deaths, exclusive of "Still Born," were beyond 70 years of age. Of these, five were over one hundred years.

TABLE NO. I.

Deaths for the first quarter of 1854 *classified.*

				Male.			Female.			
	Jan.	Feb.	Mar.	J.	F.	M.	J.	F.	M.	Total.
1 *Endemic & Contagious diseases*										
Zymotic or Epidemic	115	171	107	56	80	58	59	91	49	393
2 *Uncertain or general seat*										
Sporadic diseases	85	110	97	35	58	53	50	52	44	292
3 Nervous system	125	205	186	83	122	108	42	83	78	516
4 Organs of Respiration	250	280	224	128	146	121	122	134	103	754
5 " Circulation	28	27	22	13	13	13	15	14	9	77
6 Digestive organs	34	55	60	19	29	26	15	26	34	149
7 Urinary "	1	6	7	1	6	7				14
8 Organs of Generation	9	7	9				9	7	9	25
9 " Locomotion	2	5	6	1	2	4	1	3	2	13
10 Integumentary system	2		2	1		1	1		1	4
11 Old age	12	24	10	5	12	1	7	12	9	46
12 External causes	21	41	26	7	26	16	14	15	10	88
Still Born	44	64	39	23	31	19	21	33	20	147
Unknown	21	29	12	15	22	8	6	7	4	62
	749	1024	807	387	547	435	362	477	372	2580

TABLE NO. 2.

1. *Endemic and Contagious Diseases—Zymotic or Epidemic.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Cholera Infantum	1		1															1
" morbus		1										1						1
Croup	53	48	12	23	56	10												101
Diarrhœa	5	6	3	1				1		1	3	1		1				11
Dysentery	10	12	2	3	4	1			3	1	3	2	2	1				22
Erysipelas	14	6	9	1	2			1	3	1		1		1	1			20
Fever, Bilious		1												1				1
" Continued	1														1			1
" Intermittent	1					1												1
" Nervous		2						1			1							2
" Puerperal		8						2	1	4	1							8
" Remittent	1	3			3					1								4
" Scarlet	50	57	14	20	49	22		1			1							107
" Typhoid	21	14		2	4	4	3	4	5	5	1	4	1	2				35
" Typhus	10	7			1	2		3	5	2	1	1	1	1				17
Measles	12	9	5	6	7	3												21
Small Pox	3	5	3	1		1	1	1		1								8
Varioloid	1								1									1
Whooping Cough	11	20	12	9	8	2												31
	194	199	61	66	134	46	4	14	18	16	11	10	4	7	2			393

2. *Uncertain or General Seat—Sporadic Diseases.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess	5	1			1	1			1	2		1						6
Cachexia	1					1												1
Cancer	1	4								1	1	1	2					5
" Breast		4									1	2	1					4
Debility	47	50	48	4	3	2	1	2	1	7	4	6	7	9	3			97
Disease, Complicated		1											1					1
" Breast		1												1				1
Dropsy	14	17	1	3	4			3	4	5	2	1	1	3	3	1		31
Enlargem't Parotid Gland	1												1					1
Fungus Hematodes		1								1								1
Gangrene	1	3	2						1					1				4
Gout	1											1						1
Hemorrhage	3		1		1						1							3
" Mouth		1	1															1
Inanition	10	7	12	1				1					1		2			17
Inflammation	2											2						2
Malformation	3	2	5															5
Marasmus	40	32	38	11	11	2					4	3	2		1			72
Mortification		1						1										1
Schirrhus		1											1					1
Scrofula	12	10	6	4	5	2			1	3			1					22
Tabes Mesenterica	4	4	3	1	3	1												8
Tumour		1	1															1
" Abdominal		2											2					2
Ulceration of Neck		1	1															1
" Throat	1	2	2			1												3
	146	146	121	24	28	10	1	7	8	19	13	17	20	14	9	1		292

3. *Nervous Diseases.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess of Brain	1		1															1
Apoplexy	13	10							2		3	9	5	3	1			23
Concussion of Brain	2	1		1	1						1							3
Congestion "	28	18	13	5	8	7	2	1	1	1	2	2	3		1			46
Compression "		1	1															1
Convulsions	117	61	109	30	24	4	2		3	2	3			1				178
Disease of Brain	16	13	6	5	8	1		1		3	1	1	1	2				29
Dropsy "	42	34	31	19	22	3						1						76
Effusion "	12	12	8	7	4	1		1	2			1						24
Epilepsy	4	2							1	1	1	2	1					6
Hysteria	1			1														1
Inflammation of Brain	56	34	22	15	16	11	2	5	4	2	6	2	3	2				90
Mania		1								1								1
" a Potu	5	2							1	2	1	1	2					7
Palsy	7	13							1	2	3		3	8	3			20
Softening of Brain	5	1			1	1			1		3							6
Tetanus	4					1		1		1		1						4
	313	203	191	83	84	29	6	9	16	15	24	20	18	16	5			516

4. *Organs of Respiration.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	Total.
Abscess of Lungs	3	3	2		1							3					6
Asthma	4	4	1							1	2		2	2			8
Congestion of Lungs	12	12	13	3	3		1		2			1	1				24
Consumption "	202	183	8	6	7	7	5	20	125	86	49	37	24	8	3		385
Coryza		1	1														1
Disease of Breast		1	1														1
" Chest	1	1	1								1						2
" Lungs	4	6	1	3					3	1	2						10
Dropsy of Chest	5	4				1	1		3		1		1	2			9
" Pleura		1										1					1
Edema of Lungs		1								1							1
Effusion of Chest	1	4	1		2	1			1								5
" Lungs		1		1													1
Empyema		1								1							1
Emphysema		1	1														1
Enlargem't Thymic Gland	1		1														1
Inflamm'n of Bronchiæ	57	48	57	21	11	1		1		1	4		2	6	1		105
" Chest	2				1				1								2
" Fauces		1			1												1
" Larynx	5	3	3	1	1	3											8
" Lungs	85	75	44	36	22	5		1	9	7	2	13	7	9	5		160
" Pleura	5	2							1	2	1	1	1	1			7
" Throat	2	2	1	1	1	1											4
Hemorrhage of Lungs	6	3							2	3	1	3					9
Tuberculosis		1								1							1
	395	359	136	72	50	19	7	22	147	104	63	59	38	28	9		754

5. *Organs of Circulation.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Anæmia	1	1	1									1						2
Angina Pectoris	1												1					1
Cyanosis	5	4	9															9
Disease of Heart	22	20	5	1	3	3	1	1	2	2	6	5	7	6				12
Dropsy "		4							1		1	1		1				4
Effusion "	1	1							1		1							2
Enlargem't "	3	6					2	1	1	2	2		1					9
Inflammat'n "		1										1						1
" Veins	1										1							1
Malformation of Heart	3	1	4															4
Ossification "	1													1				1
Rheumatism "	1				1													1
	39	38	19	1	4	3	3	2	5	4	11	8	9	8				77

6. *Digestive Organs.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess of Intestines	1												1					1
" Liver	2	1							1			1		1				3
Anorexia		1	1															1
Cancer of Liver	1										1							1
" Stomach	3	3									2	2	2					6
" Tongue	1											1						1
Cancrum Oris		1			1													1
Cirrhosis of Liver	4								1		2	1						4
Congestion "	1	1					1						1					2
Colica Pictonum	1										1							1
Consumption of Bowels	2									1					1			2
Disease of Bowels	1		1															1
" Stomach & do.	1									1								1
" Liver	4	6	2						2	1	1	1	1	1	1			10
Dropsy Abdominal	3	6								2	4	1	2					9
Hemorrhage from Stomach		1	1															1
Hernia Strangulated		4									2	1		1				4
" Umbilical	1											1						1
Ileus	1										1							1
Inflammation of Liver	3	7		1					2	2	1		2	2				10
" Peritoneum	3	13	1					2	2	4	4	1	1		1			16
" Stomach & Bowels	27	23	6	7	8	3	3	3	4	2	3	3	5	2	1			50
Jaundice	5	3	2		2						1	2		1				8
Obstruction of Bowels	1		1															1
Perforation "		1							1									1
Schirrus Stomach	2	2									1		2	1				4
Teething	2	1	2	1														3
Ulceration of Bowels	3	1	2							1					1			4
" Liver	1									1								1
	74	75	19	9	11	3	4	5	13	16	23	15	17	9	5			149

7. *Urinary Organs.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Albuminuria	2								1	1								2
Diabetes	2						1	1										2
Disease of Kidneys,	3			1		1							1					3
Inflammation of do.	3								1		1	1						3
" of Bladder,	3									1	1		1					3
Stone in "	1						1											1
	14			1		1	2	1	2	2	2	1	2					14

8. *Organs of Generation.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Cancer of Uterus,		7								1	3	1	1		1			7
Child Bed,		1								1								1
Dropsy Ovarian,		2							1		1							2
Hemorrhage of Uterus,		7							2	2	2		1					7
Inflammation of "		3							2	1								3
Puerperal Convulsions,		4							4									4
Tumour Ovarian,		1											1					1
		25							9	5	6	1	3		1			25

9. *Organs of Locomotion.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Gangrene of Foot		1												1				1
Injury of Spine	1											1						1
Necrosis		1											1					1
Rheumatism	4	3				1	1	1	1				2	1				7
Spina Bifida	2	1	2		1													3
	7	6	2		1	1	1	1	1			1	3	2				13

10. *Integumentary System.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Disease of Skin	1		1															1
Purpura Hemorrhagica	1	1	1		1													2
Scurvy		1		1														1
	2	2	2	1	1													4

11. *Old Age.*

Old Age	18	28											4	11	17	9	5	46

12. *External Causes.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Asphyxia	6	4	9	1														10
Burns	5	17		3	12	1	1	2		1				1	1			22
Casualties	21	7	1		2	1	1	1	3	10	3	3	1	2				28
Drowned	7										4	2	1					7
Fracture of Skull	1					1												1
Gunshot Wound		1					1											1
Intemperance	2	5							1	5	1							7
Poison		1							1									1
Suffocation	5	2	3		1		1						2					7
Suicide	2	2						1	1		2							4
	49	39	13	4	15	3	4	4	6	16	10	5	4	3	1			88
Still Born	73	74	147															147
Unknown	45	17	15	4	3	1	1		8	6	8	4	6	4	1	1		62

TABLE NO. 3.

Deaths for the First Quarter of 1854, *at fifteen distinct periods of life.*

Under 1 year,	579
1 to 2	265
2 to 5	331
5 to 10	116
10 to 15	33
15 to 20	65
20 to 30	233
30 to 40	203
40 to 50	171
50 to 60	141
60 to 70	128
70 to 80	102
80 to 90	50
90 to 100	11
100 to 110	5
	2433
Still Born	147
Total,	2580

Included within the foregoing tables, were 159 from the Blockley Alms House; also, 163 Blacks, and 20 from the country, as follows:

	January.	February.	March.	Total.
Almshouse,	46	70	43	159
Blacks,	58	50	55	163
Country,	7	9	4	20
Total,				342

BIBLIOGRAPHICAL NOTICES.

Pneumonia: Its supposed connection, Pathological and Etiological, with Autumnal Fevers; including an Inquiry into the Existence and Morbid Agency of Malaria. By R. La Roche, M. D., &c., &c.

(Continued from page 234.)

The work of Dr. La Roche was suggested, or rather he began to write it, in consequence of the revival of an opinion that pneumonia and autumnal fevers are connected by community of cause, viz., malaria. He sets about combating this heresy, and does it with entire success. The wonder will be, in the minds of some, that a grave refutation should have been necessary. He shows that these diseases prevail under different circumstances, as regards climate, seasons, winds and localities. Their occasionally coincident occurrence, and, at times, their successive appearance, have led some into the common fallacy of assuming affinity in the first case, and the relation of cause and effect in the second. It is even conceivable, and in fact the thing has presented itself, viz., that certain localities may undergo such changes of atmospheric influence at particular seasons as to alter their climate; so that the air and temperature of low grounds in winter may give rise to pneumonia, and the air and temperature of high lands in the latter part of summer and autumn, combining with some unknown epidemical influence, may cause fevers; but these changes or conversions do not militate against the position taken in the present work. There is no mutation of causes, but merely a difference, for the time being, in the seat of their production.

The author has somewhat too readily enlarged the list of those writers who advocate the community of cause, or malarious origin, both of fevers and pneumonia. Dr. Bell certainly was not of the number, when he says: "Why, then, demand miasm as a cause of fever and refuse it as a cause of pulmonary disorders?" He meant to make the argument a *reductio ad absurdum;* and that as nobody, he thought, could attribute these disorders to a miasm, or any single peculiar morbid agency, so, neither ought

fevers to be supposed to have any such specific or exclusive origin; for if they have their distinctive characters, so have, equally, pulmonary disorders. A long list of writers of eminence is given by Dr. La Roche, beginning with Morton and ending with Bailly, "who describe a pneumonic form of intermittent fever, or periodic form of pulmonary inflammation, produced by the same cause as ordinary intermittents, and thereby, like the preceding writers, acknowledge the identity of both sets of phenomena represented in the compound." A perusal of Bailly's work left the impression on our minds, that inflammation of the lungs, liver, or spleen was separate in its nature from the fever which affected the system at the same time—an addition and complication which destroy the patient, although the fever, as far, at least, as regards its periodicity, had been removed by the administration of quinine or other anti-periodic remedies. This writer entertains, we think, the same opinion as that so emphatically expressed by the author himself, in the latter part of the volume, (Chap. VII.,) in which he speaks of cases of pneumonia marked by symptoms appertaining to autumnal fevers, as the results of complications. He denies that we are justified in admitting the identity of the two diseases represented in the compound phenomena, which he had just before noticed, or that the one is a modification, or really and substantially nothing more than a peculiar form of the other. All these cases he believes to furnish "illustrations of the complications or co-existence of two distinct complaints, produced by distinct causes, having distinct seats and characters, and being governed by different laws, but which often modify each other to a greater or less extent."

We cannot follow the author in his citation and analysis of those parts of the works of the different writers which bear on the subject, but must refer our readers to the volume itself, for a perusal of the whole line of argument, which they will find to be conclusive on the point at issue, and which sheds much light on collateral or incidental topics—a praise which, with some qualification, is merited throughout the entire volume itself. Many interesting notices of the medical topography of different places, both in our own and foreign countries, are introduced and seasonably applied.

The frequent reference to malaria as a cause of autumnal and

periodical fevers in general, led the author to an inquiry into the reality of such a cause, on which some have thrown doubts, and from a belief in which others have formally dissented. This is the theme of the second, third and fourth chapters of the volume; and it is discussed with a fulness of detail and extent of research unequalled in any other work. The contents of these chapters are well calculated to shake the faith, or rather remove the doubts of the non-conformists, who, by the way, are sometimes rebuked in rather a trenchant manner. It is not, however, always easy for even the most practised fencer, when he has touched his adversary again and again with the point of his rapier on a vital part, to avoid exclaiming "a hit, a palpable hit;" and even insinuating that the passage at arms was foolishly sought by the defeated party. He passes in review all the different states in which marshes are found—as flooded, merely moist, in process of desiccation and quite dry; and the modifications imprinted, by these several states, on the incumbent and contiguous air, contrasting, in these respects, town with country, and showing the effects of draining. He inquires, also, into the alleged changes in the atmospheric air over marshes, caused either by the diminution or the increase of some of its elements, or the addition of others, as far as pneumatic and analytical chemistry and the microscope can supply us with any evidence in the matter.

The different explanations of the etiology of periodical fevers by those who do not hold to the doctrine of malaria, are successively examined and analyzed, and dismissed as inadequate.

The author (in Chap. V.) resumes the main argument, by comparing pneumonia and autumnal fever, in reference to their causes, mode of progression, symptoms, anatomical characters, and the circumstances by which they are influenced; and, after due inquiry and comparison, he shows that they differ from each other in all these particulars. In the next and concluding chapter, he points out the fact that, although pneumonia and autumnal fevers are independent of each other, as regards their nature and causes, they may still combine together, and form, like other complaints, hybrid diseases, which must not be considered as peculiar forms of fever. These several propositions are enforced and illustrated with the copiousness of pertinent facts, derived

from a great variety of sources, which distinguish the other portions of the volume.

Having now exhibited the boundaries and chief divisions of the field surveyed by the author, let us follow him in his description of some, at least, of its characteristic features, especially those relating to malaria or miasm, and indulge at the same in a few passing remarks on the light in which he views them. He believes that Hippocrates recognized the existence of miasm as a separate morbific agent; but the language of the Coan sage does not justify this inference, although he describes clearly the nature of the localities and the impure water, which, he tells us, give origin to periodical fevers, and which, in the modern creed, are believed to generate miasm. Of the general fact, that the contemporaries and successors of Hippocrates in Greece were well aware of the deleterious nature of the air from marshes, and that they sometimes spoke their belief in allegory, sometimes in plainer description, we cannot doubt. We even go farther, and admit that they did not attempt to explain the occurrence of the diseases incidental to such localities as those now adverted to, by supposing them to be the products of changes in the sensible qualities of the atmosphere alone; but still we cannot show without very strained construction of their language, that they either asserted or understood the existence of a separate and specific cause such as miasm, or malaria. Hence, we think the author has gone in advance of his evidence, by assuming that which is not proved, when, in a subsequent chapter, page 290, he speaks of Hippocrates telling us that malaria predisposes to ulcers; we shall quote the entire sentence. "In many southern regions, the West India Islands, for example, malaria predisposes, as Hippocrates informs us was the case in Greece, to ulcers." Again, at p. 329, he says, in the first of a series of propositions growing out of a survey of all the facts and statements which he passed in review: "1. The doctrine of malaria, though of ancient origin, and very generally admitted, has encountered and continues to encounter opposition." But this is merely a literary question, and, whichever way construed, does not affect the main argument, for the support of which the author has abundant evidence in modern writers, without doing any violence of construction to the language of the ancient ones. Among the Roman

writers cited are, Lucretius, Virgil, Varro, Columella, Celsus and Livy; and the Greeks, in the Roman period, Diodorus Siculus, Strabo, Dionysius, Dion Cassius and Paulus Ægineta.

In modern times Fernelius must have the credit "for having been the first, after the revival of letters, to show the influence of contaminated air in the production of epidemics, and, as M. Rochoux has well remarked, (p. 125,) laid down the doctrine of miasmatic infection in a way which leaves scarcely any thing to desire." A number of other writers are named in succession by the author, including Prosper Alpinus, who practised in Egypt from 1580 to 1584, and who ascribed the plague of that country to morbid exhalations. Ramazzini, at Modena, and Bontius, at Batavia, were equally explicit in pointing out marshy places from which arose putrid exhalations. Sylvius (de la Boe,) at Leyden, Hoffman, Baglivi, Chirac and Porzio are mentioned in this connection. "Finally, Lancisi, collecting all the facts and information already possessed, and adding many he himself had amassed during a period of observation of thirty years, made them illustrate the etiology of epidemic and endemic diseases in general, which he ascribes, as every one knows, to marsh and other exhalations."

The author, after saying that the agency of malaria is not universally admitted, betakes himself to the task of enumerating the dissidents from his creed, and the objections made by them. In reply, he tells us, that the appearance of fever where there are no marshes does not disprove the agency of malaria, since other sources of supply and emanation of malaria are admitted by the most intelligent writers, Lancisi among the number, who yet believe in its being the specific cause of periodical fevers, intermittent and remittent, with their varieties and complications. This admission, however, of plurality and diversity of source, we might say manufacture, complicates the question which the advocates of malaria are required to solve.

"*The non-detection of malaria in the atmosphere no proof of its non-existence and agency.*"—Under this proposition the author admits as true, in the main, the fact, that, not only has the existence of malaria or specially noxious effluvia not been proved, but, still more, that the air of marshes contains the same proportion of constituents which enter into the composition of the

air of the highest mountains, and, also, that no deleterious gases beyond some very limited, we might say accidental evolution, have been found in the air over marshes or other malarious localities. The observations on this head are given with considerable minuteness.

"*Fever not due to the action of any known gases.*"—This almost follows as a corollary from the preceding proposition, and is admitted to its fullest extent by the author; but he contests the assertion that nothing is found in the atmosphere of sickly localities. He shows that Moscati, on submitting the water condensed from that which had been dissolved in the atmosphere of insalubrious places, such as of that over rice grounds and in the wards of the large hospital of Milan, found deposits of a flocculent matter emitting a cadaverous odor; and Brocchi, at Rome, detected albuminous flakes (animal matter) in the dews of the Pontine marshes. Similar results were obtained by Vauquelin, on analyzing the dews from the marshes of Languedoc and Provence, while *fresh* dews gave a somewhat, though it must be confessed not an essentially, different product, viz., alkaline salts with vegetable and animal substances. "Julia de Fontenelle and Herpin obtained results differing but little from those recorded by Brocchi, so far as regards the flocculent or inorganic matter, while in common dew nothing of the kind was discovered." The air of marshes, as we are told by the first of these writers, if kept six months, acquires a nauseous smell, an effect not noticed in common air. Dumas, and before him Volta, found an organic substance combined with the gases disengaged from stagnant water. Ozanam and Boussingault's experiments are to the same effect; and Thenard and Dupuytren discovered that "the carburetted hydrogen obtained from marshy grounds, when passed through water, deposited therein a peculiar putrescible matter; a result not obtained from the same gas disengaged in the ordinary way." M. Gasparin states, that on his condensing fog and dews, "a peculiar matter was obtained which, on trial, was found detrimental to health and fatal to sheep. The same results were obtained by Mr. Malagutti, an Italian chemist." Dr. Hume, of Charleston, S. C., discovered an organic matter suspended in the atmosphere of localities infected with the poison of the yellow fever. It was supposed by the experimenter to be

a mixture of animal and vegetable matter. Facts of this nature are worth recording, but they have not been of that uniform occurrence, nor always so indicative of associated disease, as to induce a belief in the substances above noticed, or "azotised flakes in the atmosphere" being the cause of malarial fevers, while, at the same time, their presence may not unreasonably be supposed to have some hand in the production of these diseases.

The force of the objection to a belief in the existence of malaria, based on the inability of chemists to detect it in the atmosphere, is obviated, the author believes, and quite plausibly too, by their want of success in discovering other morbid products—the matter of the contagion of small pox, for instance, in the atmosphere. "In addition, it may be remarked, that medicines, even purgatives, are sometimes found to act through the medium of the air, in which they cannot, on analysis, be detected."

"*Nature and condition of fever localities lead to the opinion of the existence of malaria,*" is a proposition laid down by the author which he illustrates with his customary copiousness of literary reference and details of medical topography. His perspicuity is, we think, however, at fault on this occasion, in his assuming as proved the very point at issue. The question is not whether certain localities are the chief homes of fever. Nobody disputes this; but whether these places are sickly by the generation in them of a particular febrile poison, is the question to be solved. Goitre is endemial in certain districts of country; but although there is still, among inquirers into its etiology, a difference of opinion as to the means by which it is produced, some attributing it to the use of waters of a particular quality by the inhabitants, others to the air which they breathe and the food which they eat, few, we were going to say none,* have attempted to cut the knot by referring this disease, marked as it is by such distinctive traits, to a single principle, and calling it a peculiar poison. The thing may be so; but very certainly it is not proved by our specifying a list of localities, of an analogous character, in which goitre prevails.

In the accuracy of the following paragraph we place full reliance, as the expression of what we believe to be an important truth;

* For want of a better explanation, a causeof this nature has been supposed, by alate writer, to be operative in the production of goitre.

but beyond this we lack the means of pushing our etiological explanations. The author had been describing marshes and low grounds as the home of periodical fevers. He goes on to say:

"Nor is it less certain that the yellow fever is traced almost invariably to city districts, noted for filth and improper ventilation, in the vicinity of ships, docks or wharves, to narrow and confined courts and alleys not far from there, to collections of substances animal and vegetable, in a state of decomposition, &c. Instances to that effect have been too frequently observed, and are too well authenticated to be denied; while the connection between the existence of places of the particular kind mentioned, and the appearance of that form of fever, is too constantly found to prevail, to be considered simply in the light of a coincidence." The agency of sustained high temperature to give effect to this kind of locality in the production of yellow fever, is dwelt on by the author in another part of the volume.

"*The danger of an attack of fever increased in proportion to proximity to such localities,*" is another proposition of great practical moment; and it is suitably enforced by the author, in a series of facts recorded by different writers. We were about to introduce, as we have repeatedly proposed to ourselves to do at different times heretofore, extracts from the pages of this volume, which teem with useful knowledge, on points under discussion; but we are as often restrained by the reflection that no quotation, or series of quotations, can do justice to the unbroken series of ample researches made by the author. He has given us not so much a mine to be worked as an overflowing treasury, from which every medical reader ought to hasten to enrich himself. We have not, ourselves, been indifferent students, nor have we passed our time without thinking and reading, and enjoying a fair share of experimental observation on the main subjects of this volume; and we would, therefore, ask some faith to be reposed in our opinion, when we say how we rejoice over its pages now, and how we would have fairly gloated on them in early life, when we were greedily seeking for literary food of this kind. When, therefore, we shall be found, at any time, in the remarks we have yet to make, merely enunciating the views of the author, it may be taken for granted that, in every instance, there is a large body

of valuable facts, and often cogent conclusions, which we have not had time or room to introduce.

Passing over, for the present, the negative side of the argument, in which the author adduces a number of interesting facts adverse to an explanation of the origin of autumnal fevers from extremes and vicissitudes of the sensible states of the atmosphere, we shall follow him on the line of his evidence in chief. He adduces, in proof of the existence and morbid agency of malaria, "occurrences on shipboard," and, the strongest fact on his side, "the causes of fever wafted by winds passing over sickly localities." The references to occurrences of this nature, in parts of France, Italy, South America and of Asia and its islands, will be new to most of our readers; nor are those in our own country less interesting. Facts in large number and pertinent comments are introduced, respecting the effects on the health of the inhabitants in the districts respectively, in which drying, overflowing and reclaiming marshes, clearing and drainage, have been practised. Apropos to this branch of the subject is the fact, that "as cities enlarge and improve, malarial fevers decrease in them." The beneficial effects of draining marshes and covering sickly places with water, are pointed out as leading circumstances to the belief inculcated by the author.

The argument is continued in the next chapter (IV.) by a reference to the salutary "effect of the washing of sickly places," and their geological formation and the plants growing in them. Again, "the cause more effective near the surface of the earth than at a distance;" and it is "mitigated or destroyed by sanative measures," and "arrested by trees, &c." "Fever arrested by removing sources of infection," and it is "sometimes connected with the existence of certain fogs or mists." "The stagnant water of marshes injurious to health," whenever it is used as a drink, and its deleterious influence on animal life, is further shown in fish not being able to live in it. We omitted a proposition in an early part of this chapter, viz., that "some forms of malarial fevers resemble diseases produced by putrid substances introduced into the circulation." The "effect of a paludal atmosphere on the duration of life," also manifested by "an impress on the lower order of animals and vegetables," in common with the human being placed under its influence, is indicated and en-

larged on, with the usual abundance of illustrative facts. Less stress can be laid on "the great diffusion and mortality of autumnal fevers, and the violence of their attacks, as evidence of "the cause being a gaseous poison." "The cause of autumnal fever extends its action to the fœtus *in utero ;*" it "appears to be neutralized by the poison of some zymotic diseases which have no effect on common complaints," and is "antagonistic to that of some other diseases," as, for example, of typhoid fever. On this point the author enlarges in a very instructive, we were going to say edifying manner. It is one that interests all country practitioners, and ought of itself to prompt every one of them to a perusal of the volume.

We revert now to the negative which the author puts on the explanations of the etiology of periodic fever deduced from sensible states and mutations of the atmosphere. Notwithstanding all that has been said to the contrary by a number of writers quoted by him, he thinks "we may safely affirm that excessive, great, or long-continued heat will not do so," viz., account for the febrile phenomena; and a little further on (p. 136) he adds: "This want of necessary connection, as cause and effect, between high atmospherical heat and fever—common autumnal and yellow—has been pointed out by a large number of writers on these diseases, as they show themselves in various parts of the globe." The author, at the moment of writing this sentence, forgot what he had said in preceding pages, (68—70,) when speaking of pneumonia and autumnal fevers as prevailing at different seasons. He had just declared malarial fever to be, in our latitudes, especially, a disease of autumn; seldom appearing before the middle or close of summer, and ceasing on the accession of winter. "It is, emphatically, a disease of hot weather, requiring for its production a continuance, for some time previous, of high atmospheric heat. It appears, generally, some weeks after the hottest month, the period being retarded as we proceed north. For the same reason it may readily be understood to be a disease of hot latitudes, prevailing as it does violently and almost perpetually within the tropics, and ceasing long before we reach the polar circle." Speaking of the fever of Senegal, on the African coast, and the season in which the endemic is most rife, he tells us: "It is at this period (the hottest of the year) that remittent

fevers annually make their appearance.* In the West Indies, the period of the greatest liability is between July and December, when the hottest weather, combined with considerable moisture, prevails." After references of a similar nature to the fevers of Bengal and Ceylon, he concludes in the following terms: "In a word, the epoch of appearance and disappearance may vary in different localities, according to the situation of those, and their position relative to the equator, and the consequent modification in the period of the seasons; but every where endemic or autumnal fevers break out, or are most rife during or shortly after the hottest weather." This must be regarded as tolerably emphatic testimony in proof of the relations, etiologically considered, between high heat as a cause, and periodical fever, in its most aggravated forms, as an effect.

In the very next paragraph to that just quoted we read: "So far as regards the yellow fever, the disease may still more appropriately be denominated one of hot weather, requiring, as it does, a higher average temperature during the summer months—not less than between 76 and 80 degrees (Fahr.) It manifests itself in no climate where the temperature is below that average, and ceases to appear before we reach the limits assigned to ordinary periodic fevers." Dr. Drake's opinion, repeated by the author in a preceding page, was, that a summer temperature of sixty degrees is necessary to the production of periodical fever. Taking the data, as laid down in the above extract and in the opinion just cited, can we shut our eyes to the very significant fact, that fever, from simple intermittent to the highly aggravated remittent, and the still more dreaded and malignant yellow fever, increases in violence and danger in almost a fixed ratio to the increment and duration of atmospheric heat. That this heat is only operative under certain conditions of locality is admitted by all parties. The difference of opinion among them consists in some, like the author of the volume before us, insisting on the evolution, from the locality of the disease, of a specific poison, or a miasm, the action of which on the animal economy predisposes it to be affected by high heat, which is therefore, in their eyes only, an exciting cause. Sometimes, again, this proposition is inverted, and high heat is declared to be the predisposing, and

* Levacher, 48.

exposure to the miasm the exciting cause of the fever. Others contend that we need not speculate about the existence of a morbid agent, miasm, which confessedly would be inoperative, and remain for an indefinite period dormant, without the agency of heat, which is in fact, the *causa sine qua non.* In this latter view of the question, high heat acting for some time on the system, induces such a state of the functions as to throw it open to the fever, after exposure to any deviation from the laws of health. Among these we may instance being chilled in the night air, a debauch at table, or other sensual excess, loss of sleep, mental anxiety and especially fear, bodily fatigue, &c.

The author continuing his propositions, tells us: "Fevers are not the effects of humidity alone," nor are their occurrence accounted for by a "high dew point;" and, also, heat and humidity combined are "not the efficient cause of fever." The same is said of vicissitudes of temperature. "The attack is sometimes too sudden, and follows on too transient an exposure to infected regions, without appreciable atmospheric vicissitudes, to be the effect of these or any other kindred cause." "Fever not the effect of particular electrical states of the atmosphere." The facts accumulated by the author under the preceding heads lead, he thinks, to the belief in a poisonous agent floating in the atmosphere. He does not believe that the innocuousness of some marshes, and of localities similar to those that are sickly, can be adduced as proof of the non-existence or non-agency of malaria. "The exemption may be explained in various ways," as by "elevation;" "degree of heat;" "sheltering from the action of the sun;" "free ventilation;" "humidity of the soil."

We have now stated, in the form of a series of propositions, with occasionally an enforcing fact, the heads of the argument contained in Dr. La Roche's rich volume, to show, first, the difference, in their etiological and pathological relations, between pneumonia and autumnal fevers, and, secondly, the existence and morbid agency of malaria in the production of the last mentioned class of diseases. In the first or main theme, we entirely concur in opinion with the author. The second or collateral, the theory of malaria, does not carry with it the same conviction to our minds as it probably will to the greater number of his readers. It is not our intention at this time to present any

counter theory, involving a different explanation of the etiology of periodical fevers, nor to discuss the subject at length; and we shall close this article with a very brief allusion to some of the difficulties in the way of admission of a belief in malaria, or marsh miasm.

At the outset, we are required by the advocates of the malarial theory, and unquestionably by the author himself, to admit a variety of miasms: thus, when speaking of the diversity of effects produced, he says, "poisons extracted from various sources of infection differ materially in composition and nature." (p. 324.) The exhalations which produce yellow fever, he adds, never produce intermittent fever. "Those from swamps, marshes, &c., give rise to periodic fevers of different grades, never to yellow fever, properly so called." Allusion is made to typhoid relapsing and typhus fevers, as resulting from diversified exhalations of some sort. "Even among fevers that are, strictly speaking, of malarial origin, some difference occurs in their symptomological and other characters." Writers are named from Lancisi to Dr. J. M. Smith and Monfalcon, who, severally, refer to, approve, or insist upon a probable diversity in the nature and composition of the miasms in question, as exhibited by the diversity of the phenomena they produce.

Dr. La Roche, in common with many other writers, believes that the miasm or malaria causing autumnal fevers is a gaseous poison. Admitting the premises just now stated, and we have several gaseous poisons, one notably for yellow fever. But as far as any approach has been made by chemistry and the microscope, to detect a poison or poisons in the air of a sickly locality, it has been of a solid substance of a vegeto-animal nature, and not a gas; and this poisonous matter has not been met with to an extent or with a uniformity at all commensurate with the range of periodical fevers. We need hardly say that, as no known gas is believed to give rise, either by its deficiency or excess, to the fevers in question, so neither has any new gas been detected which can be ranked as a cause of the occurrence of these diseases.

We revert to the probable influence of abnormal states of the atmosphere—extremes and vicissitudes—in the production of fevers which are commonly regarded as of malarial or miasmatic

origin. Their etiological value is denied by Dr. La Roche; but from his own abundant records, made to elicit truth and not to maintain a system, we find evidence of a strong character in favor of the affirmative view. Of the leading part performed by heat in giving rise to periodical fevers of the worst grade and to yellow fever, we have spoken in a preceding page. The author devotes a section to show the "bad effects of copious rains followed by great and desiccating heat," and among other illustrations relates what befel the French army in the Morea. "On their landing there in 1828, the French troops were exposed to intense heat by day and cold by night. These vicissitudes, succeeding to a long period of dryness, invited the approach of the annual epidemic. Rain fell in heavy showers on the 18th and 19th of September, and the disease broke out on the 20th."* After describing the extensive and varied surface of a locality in the Province of Rio Janeiro, (Brazil,) which suffered extensively from periodical fever in 1830, he closes by the remark: "The epidemic was evidently due to a great drought which occurred in 1829—30, and succeeded to heavy rains which flooded the country.

"It may be observed, in illustration of this," he continues, "that sickly seasons are generally those in which a wet spring is followed by a hot summer." p. 234—5.

We now direct attention to those states of the atmosphere manifested by winds, which, both by their duration and their alternation, exert a decided influence over the animal economy. Here, again, we draw on the prolific stores accumulated in the work before us. The author is speaking of the appearance of pneumonia and of autumnal fevers "under the influence of opposite winds." Dr. Bone is quoted to show how yellow fever "prevails in Brimstone Hill, St. Kitts, when the strong winds that have swept foul ground on Mount Misere impinge upon the persons in the ill-constructed barracks and out-buildings on that hill." But in the sentence immediately following, and which we produce, winds and rain are spoken of as direct morbid causes, without the qualifying circumstance of "foul ground;" "and in Tobago, Dominica, Grenada, St. Vincent, and on all the hilly,

* Gouraud-Etudes sur les Fievres Intermittentes pernicieuses dans les Contrèes Meridionales, p. 218.

uncleared islands of the West Indies, strong north and east winds, impinging upon the troops and their families in ill-constructed barracks, are causes of the disease." We ought to have adverted to some statements of the author on a preceding page to that just quoted from, (73.) He repeats, without discrediting the supposition, that Edinburgh obtains fever through the agency of the east wind which blows it from Holland. Although endowed with a tolerably robust faith, we confess ourselves unable to receive this transmarine evidence of the existence and diffusion of malaria. Whoever has suffered, as we have, from the infliction of an east wind when on the German ocean itself, while crossing in a good old fashioned slow sailing ship from England to Holland, in the month of April, will not seek for any additional aid in the way of causation of fever; other circumstances of predisposition from season, &c., favoring its operation. The east wind is eminently unfriendly to us here at home, on this side of the Atlantic, and will develop intermittent and other periodical fever as speedily as in Great Britain; but we do not attempt to explain its effects by making it the bearer of miasmata, either from the marshes of Holland, the fens of the east of England, or the bogs of Ireland. The fact is, that the east wind is inimical to health all the world round, whether it blows from land or water. "In Batavia, the north-east wind, which is very prevalent during July, August and September, is highly unfavorable to health." This wind must, however, owing to the geographical position of Batavia, on the north side of the island, blow from the sea.

More emphatic testimony to show the causative power of winds in producing yellow fever could scarcely be borne, than is contained in the following language, held by M. Lefort, and quoted in the present volume (p. 75,) with the remark that his ample experience and accuracy of observation cannot be doubted. "The development of the yellow fever, in the West Indies, in a great number of men at the same time, in different parts, at a distance from each other, on a level with the sea, or slightly above, on board vessels at port or at sea, coincides so exactly with the prevalence of the south winds, that it is impossible not to recognize in these meteorological conditions the true cause of the epidemic of yellow fever. The effect here is intimately and necessarily connected with its cause. The production and extension of yel-

low fever under the prolonged influence of the south winds, is a fact observed by every one; so inevitable indeed, that it can be produced without fear of being ever mistaken. This action of the south wind is felt here by every thing that breathes. They produce undefinable effects on our senses. We feel them in bed, or sitting at the desk; they enervate, cause oppression and depress the spirits. To say in what these atmospherical alterations, the effects of which are so much to be dreaded, consist, and to seek to determine their specific nature, is, doubtless, a task beyond the faculty of man." We are disposed to adopt the conclusion reached by Dr. Lefort, and to receive as an ultimate fact the recorded influence of these winds, without an attempt at farther explanation, which is apt to mystify, by our supposing them to be the bearer of miasmata.

While thus making use of some of the facts so industriously and faithfully collected by Dr. La Roche in the present volume, we must not omit to state, that he adduces them with a different signification and in a different connection from those which we give to them. According to his view, if we do not mistake him, all the atmospherical influences which operate so prejudicially on the human system, are only means or secondary causes for developing into downright disease, a morbid predisposition induced by the depression of malaria or marsh miasm, on which last alone depend, he thinks, the distinctive febrile phenomena. This miasm, supposed to be of vegeto-animal origin, and familiarly spoken of as a poison, is, however, unlike all known vegetable and animal poisons. They are the products of organic forces, of living organization, in fact, whereas, this is assumed to be the product of decaying and dead organic matter, so that all the analogies drawn from those fail of application to this. Many of them may be brought to a state of extreme division, and so volatilized and diffused through the atmosphere as to be no longer cognizable by our senses; but still they are, each of them, reducible to matter in either a fluid or a solid form, and we know their first homes and origin. Miasm, on the other hand, always escapes our senses, is always volatile, or, if condensed, it is only so by inference, never by demonstration. Other poisons, including those of the inorganic class, as the mineral ones, produce their peculiar or specific effects on the human system, irre-

spective of any modifying agency or circumstance, although some of them, as in the instances of the poisons of small pox, measles and scarlatina, take effect with more readiness, and on a much larger number of subjects, in virtue of the operation of modifying, and chiefly atmospheric, or, as we commonly call them, epidemic influences. But, on the contrary, in the case of marsh poison, it is in a great measure, if not entirely, harmless, by the admission of the most intelligent of those who advocate its febrificant power, until the human system, in which it rests as in a nidus, during what is called a period of incubation, is acted on by atmospherical and other known and appreciable causes. The marsh poison would remain in the living body as inert and inactive as the seed of the Egyptian wheat which remained for three thousand years in a state of desiccation in a mummy, and would only germinate into the forms of fever, as the latter would into leaves and stem, and productive grain, under the fostering influences of atmospherical exposure and modifications; moderate and few, indeed, in the case of the grain, but more marked and various in that of the miasm; assuming as we now do, for the sake of the argument, the actuality of this latter.

If we have recourse to the test of prophylaxis, the influence of malaria would seem to be reduced almost to that of a homœopathic dilution. In the same so called malarial district, during the latter part of summer and autumn, how different the fate of those who are well clothed, well lodged, and protected from the hot sun by day and the cool and damp air by night, and who are not fatigued by labor or excess of bodily exercise, from that of the poorer class who are exposed during a day of labor to great heat, and, from improvidence or necessity, afterwards, to the coolness and dews of night, without their bodies being protected from either extreme by suitable, and especially, woollen garments next to their skin; the food of these people, all the time, being often defective in quantity and of a bad quality, and their drink impure water, or worse still, alcoholic liquors. Now, be it remembered, that both these classes inhale the same air, which is supposed to be now largely charged, if not saturated, with miasm, evolved after some fashion or another from the surface of the soil; but yet how contrasted the effects of this miasm on these two classes. The first, or wealthy, escape almost entirely;

the latter, or the laboring, suffer from periodical fever in large numbers. This is not an imaginary picture; it is a description from real life, made by Folchi, of the inhabitants of the dreaded Campagna, in the vicinity of Rome. Some of our readers have known, we dare say, from their own observation, others from competent authority, instances of families living in the midst of a district deemed to be eminently exposed to malaria, in fact in the centre of marshes, the individuals of which enjoyed immunity from fever, by living in such a way as to conform to the rules of health, in which, under the circumstances of their locality, are included the preservation of an equable temperature, and avoidance of humidity, in the house, by means of a small fire morning and evening, even in the hot months. During all this time, they were obliged to inhale the miasmatic air with which they were, according to the popular creed, surrounded. Can we, therefore, explain their exemption from fever in any other way than by their avoiding those atmospherical extremes and vicissitudes on which we have seen it, by the acknowledgment of the miasmatists themselves, mainly to depend? We may ask, in addition, if there is any known poison, the product of nature or compounded by art, which can be made so harmless, comparatively, by adherence to the rules of hygiene?

It must be remembered, that all the conditions for the formation and development of miasm imply changes and vicissitudes in the known qualities of the atmosphere. Autumn, the season admitted to be that in which the alleged poison is most active, is the one, also, which, by its reduced temperature and greater humidity, contrasts strongly with the summer season that immediately preceded it. But in a still greater degree must the human body be affected by the sudden contrasts between the hot sun of an autumnal day and the coolness, amounting often to coldness, and the accompanying heavy dews of an autumnal night. We have here not only extremes, but alternation of extremes, the impression of which is much increased on those who had been thrown into a state of indirect debility and of irritation by the influence of the protracted and intense heat of the preceding summer, and who are, in consequence, predisposed to the operation of any subsequent noxious agency. In our endeavors to explain the etiology of periodical fevers, the

whole atmospheric machinery should be considered, and not merely one or two of its parts. It will then be seen that none of the circumstances under which miasm is said to be generated and rendered more active in producing disease, are unaccompanied by atmospherical extremes or vicissitudes, or by both. A recurrence of the fever in the spring, or in damp or rainy weather in winter, is easily explicable by our admitting, what is actually the case, a renewal of those atmospherical conditions, but with less intensity, which caused the disease in the preceding autumn, without our imagining that a certain poison, called miasm, had been lurking all the time in the system, and is now brought into activity. If it be said that the etiological explanation, on atmospherical data, sometimes fails, the same may be said, with equal force, of the miasmatic doctrine; inasmuch as we sometimes see periodical fever in districts in which the conditions for the evolution of miasm are wanting, and, again, an absence of fever where this alleged poison might be supposed to abound. Certainly there are, every now and then, instances in which no proportion exists between the amount and diffusion of the assumed cause and the violence and complications of effect.

Ample confirmation of these averments is furnished in the volume before us (p. 178—184.) The explanations of these anomalies from the miasmatic rule may, Dr. La Roche believes, be found in the elevation of the place so affected above the level of the sea; or, in other cases, to the absence of a sufficiently high and long continued atmospheric heat; or, it may be, to a very perfect and constant ventilation and a very rarified and pure atmosphere; on occasions "it may be explained by the peculiar geological character of the soil; the quantity and the quality of the surface water; or the proportion of sulphates the latter holds in solution. Sometimes, also, it is due to the rapidity of the river currents, the excessive and rapid dryness of the atmosphere during the hot season, the existence and extensive prevalence of refreshing and purifying winds, and often to the degree of desiccation of the surface by natural or artificial means, the degree of cultivation to which it has been carried, and other agencies of like import, as well as by the extent to which it is sheltered by rich foliage, and other means, from the action of the sun." After this enumeration of the various circumstances, most of them con-

sisting in evident and avowed modifications of the atmosphere, and equally evident though less frequent phenomena depending on earth and water, which render null, and void of injurious operation, the so much dreaded subtle poison of miasm, there would seem to be no great stretch of skepticism in doubting the existence of any such deleterious agency. Its introduction in the causation of fever might be regarded as a speculative refinement, analogous to the sentimental view of the operation of love in certain cases; as in that of a man who was represented to have died, in one of the West India islands, of love—and yellow fever; and of another, in our own State, whose life was brought to a premature close by disappointed love—and hourly imbibing raw whiskey, as it flowed from the still.

In giving the main share to the atmosphere in the production of periodical fever, we would not be understood to overlook the operation of other causes, such as improper ingesta, including bad water, and perturbations, especially depressed states, of the nervous system. There are many cases on record of intermittent fever being brought on by indigestible substances; and some are related by Giannini, and others of the like effect being produced by irritation of the urethra, from introducing a bougie in cases of stricture. These are not regarded by Dr. La Roche as examples of true fever, although the paroxysms certainly simulated the febrile ones very closely, and recurred at similar intervals; and like these latter require the administration of bark, or of quinine for their removal.

Although not intended to produce that effect, the mention of some of the difficulties in the way of a solution of the problem of the etiology of periodical and yellow fevers, will, we dare say, cause a more lively desire on the part of our readers to possess the richly stored volume which has elicited the above remarks, and to peruse its pages in the same conscientious and pains-taking spirit in which it was written. They will then acknowledge that, even in the warmth of regard for the author personally, we have not indulged in any strained eulogy of the merits of his present performance; and they will, we are sure, join us most heartily in the wish that he would complete at an early day that "labor of years," of which he speaks in his letter to Dr. Meigs. The profession would then, every where, at home and abroad, be able,

with a feeling of just pride, to point to the most learned, comprehensive and accurate work on Yellow Fever which has ever appeared. In such labors, varied by the indulgence of his refined literary tastes, the author can hardly fail to find rich consolation under bodily infirmities, which prevented him from early occupying a larger field of practice than is opened to most young men. Even as it is, he turns his few acres to better clinical account than many who may be found boasting of the extent of their medical domain.

A Treatise on Venereal Disease. By A. VIDAL (DE CASSIS), Surgeon of the Venereal Hospital of Paris; author of the Traité de Pathologie Externe et de Médicine Opératoire, etc., etc. With Colored Plates. *Translated and Edited by* GEO. C. BLACKMAN, M. D., Fellow of the Royal Medical and Chirurgical Society of London, etc., etc. New York. S. & W. Wood. 499 pp. 8vo.

It cannot be denied that the doctrines advocated, if not originated by Ricord, have been constantly growing in favor. Whether original with himself or properly belonging to others, it must be admitted that he has done more than any other man to establish the truth of what he teaches. No one can undertake to make himself master of the subject of Venereal Disease without finding that he has to wade through much that is tedious, unsatisfactory and contradictory, and when he opens Ricord and reads his positive annunciations, his clear and abundant proofs, and his direct conclusions, the chaos of conflicting opinions disappears, and he feels that he has emerged from darkness into light, from theories and dogmas to facts and laws.

The influence of Ricord's teachings has been felt by all, who are not wedded to preconceived views, or who have not the candor to investigate truths which claim to be fully demonstrated by experiment.

It seems almost cruel to throw a doubt upon opinions which are now becoming a part of the definite and positive in medicine; it is like taking a step backward to unsettle those principles which we were just receiving as axioms, to intimate that Ricord is an authority no longer decisive as to doctrines or modes of practice; to learn that "the immutable *laws of experiment*," pro-

claimed by M. Ricord, "were annulled by experiment itself," and "the promised certainty resulted in uncertainty." Yet when such an authority as Vidal, the author of Traité de Pathologie Externe, the surgeon at l'Hôpital du Midi and the Lourcine, the successor of Cullerier, comes before the public, in a modest and dignified style, and offers, with true philosophic spirit, to discuss questions to which it was impossible for him to be indifferent, on account of the vast theatre of observation and experience in which he had so long been industriously engaged, we are bound to pause before adopting as final any preconceived opinions.

This work comes to us with no flourish of trumpets, no claims to discoveries of new laws, but with the honest endeavor "to collect the practical truths which are the results of observation, and those which have survived the downfall of systems;" he enters upon his work with no promises of leading men to conclusions with unerring uncertainty, but, after testing experiment by experiment, he says, "still I have thought it my duty to warn the young practitioner against disappointments and regrets, there being nothing, in my opinion, more dangerous, either in study or in practice, than to invest mere forms, and to pronounce that to be infallible which can be but probability or uncertainty."

We come now to the examination of the doctrines held by the author upon some of the mooted points with which the subject abounds.

Identity of Gonorrhœal and Syphilitic Matter.—Does he believe with Hunter that there is but one virus which produces blenorrhagia or chancre, according as it comes in contact with mucous membrane or skin; or with B. Bell and Hernandez, that there is one virus for blenorrhagia and another for chancre; or with Ricord, that blenorrhagia is a mere urethritis, a non-virulent affection, which can be produced at pleasure by irritants, and that there is but one poison, which always produces a chancre and never a blenorrhagia, and that the cases of chancres which have resulted from blenorrhagic pus, are to be all clearly explained by the supposition of there being a concealed chancre? Upon this vexed question, M. Vidal takes the ground that gonorrhœa and chancre are the results of the action of the same virus, and that both are followed by secondary affections; he

states that there will always exist a disease of the mucous membranes, without ulceration, occurring under the same circumstances as chancre, caused by contagion, which is a specific disease, and not a simple phlegmasia, and which gives rise not only to primitive effects, but also produces in the same individual metastatic affections, such as opthalmic and arthritic inflammations;* and he quotes Messrs. Cazenave, Martius, and Legendre as asserting that "blenorrhagia produces as many cutaneous affections as chancre." He does not believe in the concealed chancre of Ricord. "I myself do not admit the existence of chancre beyond the navicula fossa." "I am aware of what has been written concerning the deep-seated urethral chancre; some pathological specimens of which have appeared satisfactory to those who exhibited them.

"But I must confess, after a very careful examination of that regarded the most important in proving the existence of a profound urethral chancre, I am convinced that this is a case not of syphilitic but of tubercular ulceration, which existed at the same time, in the form of cavities in the prostate gland, in the testicle, and in other organs of the same patient. I observe that some excellent surgeons partake of the same doubts." He then quotes Velpeau in his communication to the Academy of Medicine, Oct. 12, 1852, who thus remarks: "The specimens presented by M. Ricord, as examples of chancre, are far from being incontestible. In one of them I recognise that of a tubercular young man, having large cavities in the prostate portion of the urethra, and I see no indication that chancre had existed there. The other is that of an old man almost equally obscure. I saw these specimens when first exhibited to the Academy, but they were far from satisfying me of the existence of chancre."

He does not consider the discharges produced by mechanical irritation, or chemical solutions, as true gonorrhœas, because they are not followed by the secondary effects consequent upon the applications of "virulent pus, which is the medium of the syphilitic virus, and is, in my opinion, the most frequent and powerful cause of blenorrhagia." "We come then, to the conclusion of Benjamin Bell, and admit a doubt

* Pp. 21—22, Introduction.

virus, or more properly speaking, we apply two names to the same virus."

Although our author gives us experiments of his own to prove that chancre and its sequelæ result from the application of the gonorrhœal virus, still he quotes M. Baumes, who states that in five cases of simple blenorrhagia, in which he was certain there was no chancre in the urethra, constitutional symptoms followed, such as well marked, rounded ulcers in the tonsils; mucous tubercle at the commissures of the lips, about the anus, and in the scrotum; syphilitic ecthyma; furfuraceous, squamous, and papular eruptions.

M. Vidal goes still further, and states that syphilitic virus is the most common cause of *balanitis*, although he admits it may be produced by various other causes, such as want of cleanliness. He believes, too, that balanitis may be followed by secondaries, and that a balanitic discharge may be successfully inoculated. "Experience has shown that balanitis in both its forms, that is, without and with erosions, has been followed by consecutive accidents, which revealed the existence of constitutional infection. Experiments have corroborated these remarks; they have established the fact, that the matter secreted in a mucous balanoposthitis may be successfully inoculated, and that, too, when there is no ulceration, nor the slightest erosion, or solution of continuity in the mucous membrane." "These facts, however, have occurred at the *Hôpital du Midi;* they have been collected by an *interne* with whom I am acquainted, and have been inserted in his inaugural thesis. Dr. Bartholi asserts even that he has met with thirty cases of this kind. One of these is very remarkable; in a case of balanitis, without the slightest exfoliation of the mucous membrane, without any other venereal symptom, an adenitis supervened, which was treated by numerous punctures. Each puncture became transformed into a chancre. Pus was taken from one of these ulcerations, and, inoculated, produced what is called at the *Hôpital du Midi* the *pustule characteristique*, in other words, that which precedes chancre. (The *Thesis* of M. Bartholi was defended at Paris, in 1845; it was on the subject of *Syphilis* and Scrofula. I have not repeated these experiments, because the syphilitic nature of balanitis, under the form which is called simple *catarrhal*, I have

never doubted, since I have been able to watch for a length of time the patients in whom it occurs."—p. 169.

We think that the above extracts show sufficiently the views of the author upon this important question, but his opening paragraph to the chapter on Chancre is still more decided.

"The syphilitic virus, when brought into contact, under certain conditions, with the living tissues, produces two principal effects: first, a form of inflammation, which is called blennorrhagia, from its product; second, a form of ulceration, which is *chancre*. I have already traced the history of blenorrhagia; chancre will form the subject of our present investigations. It is one of importance, and worthy of the reader's serious attention, particularly as certain syphilographers regard *chancre* as the only medium by which syphilis can be admitted into the system, as the first condition and the sine quâ non of the pox. Hence the doctrine, that *without a chancre there can be no pox.* Facts and the most legitimate analogy show the error of this proposition."—p. 190.

Incubation.—Upon another point of great interest, both in a doctrinal and practical point of view, M. Vidal holds opinions entirely at variance with Ricord. The question in dispute is, whether the virus acts locally, and then, after a certain time, is absorbed at once, and the local phenomena are only an evidence of the constitutional affection.

Ricord believes that a chancre has a local incubation, and his opponents believe in a general incubation. He considers that when pus is applied to a part, it requires several days to mature a chancre, and that it may be cut short in its progress by cauterization; and constitutional disease be thus prevented. Vidal sees, with Bosquet, great analogy between the vaccine and syphilitic virus. They believe that the infection is absorbed at once, and that a chancre is as much an evidence of constitutional affection, as a vaccine pustule is an evidence of the system having been affected by vaccination. Ricord answers this vaccine analogy, and states, that the cow-pock and tartar emetic pustule are analogous, and that emesis ought to be expected before the latter pustule is produced with as much certainty as protection from small pox-could be, before the pustule is matured.

Vidal says,—"I believe in incubation, that is to say, I believe

that the virus may remain some time a cause without effect, at least, any appreciable effect." "The advocates of incubation appeal to analogy and to carefully observed facts. Thus the greater number of morbid poisons remain in the system for a certain length of time, without any evident external manifestation; they are there in a state of incubation. Why may not the syphilitic virus obey the same law? But facts favor this opinion still more than analogy." He then goes on to give cases in his own experience and that of others corroborative of this opinion.

Transmissibility of Secondary or Consecutive Disease.—Here our author and Ricord are directly opposed. Vidal not only believes in the communicability of secondaries from one individual to another, not hereditarily, but also is very positive as to the direct contagiousness of mucous tubercle, and that it is almost universally acknowledged that it may be a primary accident, and that Ricord is almost the only writer on syphilis who denies its contagious nature. And in support of these views he gives not only experiments but cases.

He believes that nurses with secondary syphilis may, through their milk, be the sources of disease in children. In all such cases Ricord thinks that such manifestations in the children may be referred, either to primary disease in the nurse, and the matter having been brought in contact with the child, which first maturates a chancre and then has secondaries, or that its constitutional taint may be accounted for by hereditary causes.

As to the syphilitic diathesis, which Ricord believes to be established by an indurated chancre not cauterized, Vidal does not concur in it. He believes that a person may have a true chancre and become perfectly sound; that he may have a secondary eruption and entirely recover; that he again may have a chancre and another eruption, and still recover.

Syphilization.—Two of the most recent defenders of syphilization have two objects in view—prophylaxis and cure. They not only believe that saturating the system with syphilis by inoculating chancrous pus renders the system insusceptible to primary and secondary accidents, as vaccination guards against small pox, but also that the virus is the best remedy against the action of the virus. With reference to this subject, which has excited

so much interest recently on the continent, through the experiment performed on young M. Laval, a German physician, who believed himself to be completely saturated and challenged inoculation, he with great propriety remarks that "it would be irrational and inhuman to give positively to an individual a disease to protect him from that to which he is not fatally condemned. Prophylactic syphilization, therefore, is an irrational project." "As to curative syphilization, I have carefully examined the arguments, pro et contra, and in my estimation they are yet insufficient to decide the question."

We should like to bring before our readers still further the opinions of the author, and to place them in contrast with those of his competitors at the Hospital du Midi, but the limits of this notice prevent any further portrayal of his views. We should take much pleasure in exhibiting his modes of treatment, but must content ourselves with simply informing the reader that he is a merculiarist.

The work is published in a very handsome style, and beautifully illustrated by colored lithographs and wood-cuts. It is one of the most valuable works that has recently been issued from the press. Not only to the advocates of particular doctrines, but to every reader who wishes to be well informed upon this wide-spread calamity, will this work be a valuable accession.

The Editor, Dr. Blackman, has performed his duties with credit. The translation is generally good, and his notes are spirited, and add much interest to the text.

Comparative Anatomy. By C. H. SIEBOLD and H. STANNIUS. *Translated from the German, and edited with Notes and Additions*, by WALDO J. BURNETT, M. D. Boston: Gould & Lincoln.

The first volume of this work on the "Anatomy of the Invertebrata," has just been published; and after a careful examination of its contents, we most earnestly recommend it to the attention of naturalists, and to those members of our profession, who take an interest in such matters. The whole work is a translation of the "Lehrbuch der vergleichenden anatomie" of Von Siebold and Stannius, a treatise already well and favorably known to anatomists throughout Europe.

To those engaged in microscopical researches, this volume will be truly welcome. Within the last few years, our knowledge of the structure of living beings has been greatly advanced by the use of the microscope. Anatomy and physiology have been established on the more philosophical basis of histology, and contributions to histological science are sure of a favorable reception. On account of the small size of most of the Invertebrata, the microscope has been freely used, and the details of what is invisible in their structure, have been carefully recorded. In his preface, Von Siebold says, that it is only by such aid "we are able to show that this or that organ is a branchia, a liver, a kidney, an ovary or a testicle."

We know that there are many among us, who are devoted to microscopical investigations, and we cannot offer a stronger recommendation of this volume on the "Anatomy of the Invertibrata," than to say it abounds with an immense mass of new and beautiful researches into the anatomy and functions of those myriad organisms, which the miscroscope reveals.

The science of comparative anatomy is too much neglected by the members of our profession. It is intimately associated with all correct knowledge of the human organism. Man may be truly regarded as a microcosm of that life which is peculiar to our planet. Every organ and function which in him attain its highest degree of developement, exist in one or other of the humbler tribes of animated beings beneath him. This idea, first propounded by John Hunter, has been abundantly confirmed by the researches of later physiologists. They have successfully established the law, that the progressive phrases of embryo life correspond to the abiding forms, which are preserved in the total organism of animated nature, as typical of its gradative evolution; and that as the embryo of each higher animal, passes rapidly through the forms of the animals inferior to it, in order to attain its maturity and specific rank of being, that of man is transitively the compendium of all; not, indeed, without a difference, since in each instance, the changing form of the embryo bears the impress of its transitional and complete character, while it ever preserves the promises and prophecy of the being into which it is to be finally evolved.

Every living thing is intimately connected with the evolution

of this vast system of animated being. The phenomena of vegetative life ought not, therefore, to be neglected; how much more, when to the vegetative force there is superadded a nervous influence. The lower indications of this nervous influence, as connected with muscular action, or its higher indications as associated with the instinct of inferior creatures, are all deserving of a careful investigation. To be studied philosophically, every organ and function ought to be traced from its rudimentary condition, through all its beautiful adaptations in the organization of the animated tribes which people the earth, the air, and the water, until it arrives at the highest degree of its development in the human organism.

We welcome the appearance of this work, because it is a movement in the right direction. The advantage, or rather absolute necessity of studying the organization of the lower animals in connection with that of man is now universally recognized. A great part, often the best part of the proofs of the most important physiological doctrines, are derived from comparative anatomy.

There are several features in this work, which will insure it a favorable reception. In the text will be found an excellent classification of the invertebrata, from the lowest to the highest forms of organization, accompanied by a bibliography, or list of the best authors who have written on the subject. By this means, the whole work becomes invaluable as a guide-book, and work of reference to the student, who wishes to pursue any "especial line of inquiry and research." To this succeeds a lucid, yet concise exposition of the anatomy and functions of the several organs. The cutaneous, muscular, nervous, circulatory and respiratory systems are described; also the digestive apparatus, the organs of sense, secretion and generation.

The notes give additional confirmation to the statements in the text, and will be found to be rich repositories of valuable information, combining copiousness with brevity.

The work has, however, certain peculiarities, which as they involve an assumption of positions at variance with the generally received views, as to the indefinite character of the limits between the animal and vegetable kingdoms, deserve an especial notice. Thus in Book I. on the "Infusoria and Rhozopoda," page 20, our author says, "cell-structure and free motion are the only two

characteristics, in common of the lowest animal and vegetable forms; and since *Schwann* has shown the uniformity of development and structure of animals and plants, it will not appear strange that the lowest conditions of each should resemble each other in their simple cell nature; as to motion, the voluntary movements of Infusoria should be distinguished from those which are involuntary, of simple vegetable forms; a distinction not insisted upon until lately. Thus, in watching carefully the motions of Vorticellina, Trachelina, Kolpodea, Oxytrichina, &c., one quickly perceives their voluntary character. The same is true of the power of contracting and expanding their bodies."

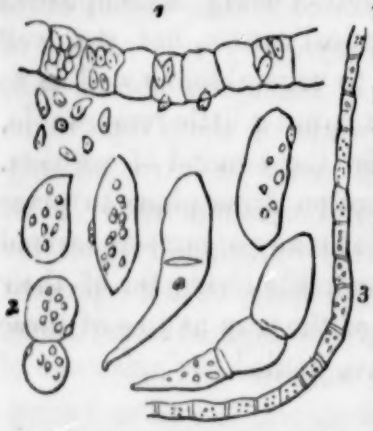
"But in the motions of vegetable forms, other conditions are perceived; and there is no appearance of volition in either change of place or form, their locomotion being accomplished either by means of cilia or other physical causes, not yet well understood. Cilia, therefore, belongs to vegetable, as well as to animal forms; and in this connection it is not a little remarkable, that in animals they should be under the control of volition. However, notwithstanding their free motion from place to place by means of cilia, the vegetable nature of many organisms seemed clearly indicated by the rigid, non-contractile character of their forms. It is from a misapprehension of the true nature of these facts, that some modern naturalists have denied the existence of limits between the two kingdoms."

Without denying "the existence of limits between the two kingdoms," we cannot help saying, that the author has not been as explicit on the subject as he ought to have been. He should have told us what were the facts that induced him to arrive at the conclusion, that the movements of Vorticellina, &c., were voluntary. Such statements should be received with considerable caution, the more so, when they are at variance with the conclusions of some of the best observers of the day. Mr. Owen has never been able to see these voluntary motions. He says, "the motions of the polygastria have appeared to me, long watching them for indications of volition, to be in general of the nature of respiratory acts, rather than attempts to obtain food or avoid danger. Very seldom can they be construed as voluntary, but seem rather to be automatic; governed by the influence of stimuli within or without the body, not felt but reflected upon the

contractile fibre; and therefore, are motions which never tire." (See Comp. Anat. page 19.)

The fact is, we are not yet in a position to pronounce with the voice of authority, that the animal and vegetable kingdoms are sundered by decisive characteristics.

It was long ago asserted by Bory de St. Vincent and others, that there exists in nature organized bodies, which are animal at one period of their lives, and vegetable at another. This, if true, would forever put an end to the possibility of distinguishing the two kingdoms, when they shall each have arrived at their lowest forms. Its truth has, however, been denied; on the contrary, Kützing, in his recent magnificent work on Algæ, insists that it happens in his Ulothrix Zonata, (Fig.)* He asserts, that in the cells of that plant, there are found minute animalcules, with a red eye-point and a transparent mouth-place; that they are not, in fact, distinguished from Ehrenberg's microglena monadina; these bodies, however, are animals only for a time. At last, they grow into vegetable threads, the lowest joint of which, still exhibits the red-eye point.



This phenomenon, which Kützing assures us he has ascertained beyond all possibility of a doubt, puts an end to the question of whether animals and plants can be distinguished at the limits of their two kingdoms, and sufficiently accounts for the conflicting opinions that naturalists entertain, as to the nature of many of the simpler forms of organization. (Vide Lindley's Vegetable Kingdom.)

Perhaps, the best mark of distinction is that which has been proposed by the chemists, the presence of starch in plants, "an organic compound unknown among the animal creation." By this test, M. Payen has been able to confirm the vegetable nature of certain productions, till lately regarded as Zoophytes, and therefore, as belonging to the animal kingdom.

*Fig. Ulothrix Zonata, after Kützing. 1. A portion of the plant discharging its vegeto-animalcules; 2. The latter much enlarged, and in various states of progress into a thread; 3. A young thread or plant, three or four days old, much less magnified.

In closing this very imperfect notice of the volume before us, we cannot do less than congratulate Dr. Burnett on the very able manner in which he has performed his part as translator and editor. The notes he has added, show his own knowledge on the questions involved to be great; and that he has thought much and profoundly on the subject. The "getting-up" of the book is admirable, and reflects much credit on the publishers.

Transactions of the American Medical Association. Instituted 1847. Vol. VI.

The fact that our National Association is the representative body of the medical profession of the United States, should cause us to regard with a critical and anxious eye its yearly volume of Transactions. Our scientific character at home and abroad will, in great measure, be estimated by the value of these reports, as it will be naturally inferred, that they would be intrusted only to gentlemen of the highest ability and attainments. It is, therefore, with no ordinary interest that we annually look for their publication. It gives us pleasure to state, that the present volume, though containing no paper of the highest importance, is, on the whole, a creditable one to its authors.

The address of the President, Dr. Wellford, is well and sensibly written. He briefly notices the origin and aims of the Association, and in eloquent language exhibits the happy influences it has already exercised upon the profession. As objects of paramount importance to the advance of medical reform, he earnestly urges the necessity of "a form of organization of both local and State societies," and a proper regulation of the license to practice. Regarding this latter measure, he remarks, "I know of no plan by which this can be effected, other than by a law in each State establishing a Board of Medical Examiners, to whom shall be confided the exclusive power to grant the license to practice within her limits. It should be required to subject each candidate to a rigid examination, and forbidden to grant its certificate to any applicant who was found to be imperfectly qualified. The Board should be unconnected with any school of medicine; but no candidate should be admitted to examination

excepting regular graduates of some respectable institution, nor should even then the diploma be recognized, unless it was conferred by a school teaching a full curriculum, and demanding terms of study of sufficient duration to authorize the belief that the diploma emanated from a worthy source, and was bestowed on a worthy recipient." At the close of his address, Dr. Wellford pays a brief and eloquent tribute to the memory of Drake and Horner.

Report of the Committee on Medical Education.

The reporter, Dr. Z. Pitcher, reiterates the suggestions of former committees, and observes, "that there is a general desire, not only on the part of the schools, but in the great body of the profession, to come up to the national standard. This disposition has manifested itself in various ways. Some of the Colleges have lengthened their regular terms of lectures, or created new professorships, and added new subjects to the curriculum of studies. Others have established preparatory or supplementary courses of lectures, as a means of meeting the new demand made upon them, in consequence of the agitation of this subject, since the organization of the National Association. The private practitioner has taken new views of duty, and refused to admit into his office the unqualified applicant, and the local societies have voluntarily erected barriers to his taking the initial step in that direction."

These statements, we regret to say, are entirely too much "couleur de rose." We are of opinion that the recommendations of the National Association on the subject of medical education have hitherto effected very little. A few schools, it is true, adopted its views on the requirements for the degree of M. D. The great majority of them, however, paid no attention to them; nor has their so-doing been in any way injurious to their interests. If "the great body of the profession" had really desired a higher standard of medical education, the catalogues of the few complying schools would have testified to the advantage of such a course; whereas, it is well known that these very schools were obliged, in obedience to public opinion and for self-preservation, to make a retrograde movement. We consequently think that Dr. Pitcher is not justified in his statement, "that there is a general desire, not only on the part of the schools,

but in the great body of the profession, to come up to the national standard."

Notwithstanding the efforts mode to elevate the character of the alumni of our schools, Dr. P. remarks, that the number of those who fill the ranks of the profession without education is not perceptibly diminished. To remedy this evil, he recommends "the establishment of free colleges for the preparatory and professional education of the young men now scattered over the wild and half cultivated domain of the West." The feasibility of this measure is evinced, he thinks, by the organization of the University of Michigan, the only institution in the country endowed by Government and regulated by State authority. "By the medical faculty of the University, all candidates for the degree of M. D. are rigidly required to comply with the conditions of the National Medical Association, except attendance upon hospital cliniques, and have been notified that, in the future, it is in contemplation to exact the same preparation for admission to the medical as is now prescribed for membership of the department of arts. As an incentive to the prosecution of classical studies, one year will be deducted from the term of medical studies of all students who graduate first in the department of arts."

We have no confidence in the proposed remedy of Dr. Pitcher. It is the general opinion of the profession, that we have already too many Colleges, and that it should be our sole endeavor to extend the requirements of those now in existence. Their further multiplication, on the basis proposed of Government endowment, besides affecting most injuriously the fruits and interests of those which are conducted by private enterprise, would tend, by the spirit of competition they would excite, to lower still further the standard of professional requirements. These objections outweigh, in our opinion, any possible advantages that might be derived from such institutions, and we are constrained, in consequence, to state our disapproval of them.

Dr. Pitcher has a very poor opinion of the value of clinical instruction, as it is now taught in our hospitals, and proposes a new organization to adapt them to the wants of the time. "This could be done by erecting them into schools of practice, with a special faculty, whose plan of instruction should have a direct

relation to the cases in their wards, so that each one should become an illustration of the text of the professor."

The Committee conclude their report with the following resolutions:

1. *Resolved*, That the Association reaffirm its formerly expressed opinions on the value and importance of general education to the student and practitioner of medicine, and that it would gladly enlarge its rule on this subject, so as to include the humanities of the schools, and the natural sciences.

2. *Resolved*, That, in the opinion of this Association, a familiar knowledge of the elements of medical science, should precede clinical instruction.

3. *Resolved*, That in order to accomplish the latter, the hospitals, when they shall be elevated to the rank of schools of practice, and the intelligent private preceptor, are the most effectual instrumentalities to be employed.

(To be continued.)

THE MEDICAL EXAMINER.

PHILADELPHIA, MAY, 1854.

In our next issue, we shall publish the proceedings of the present session of the American Medical Association. It will be remembered by our readers, that a number of amendments to the Constitution will be presented for its consideration. Its action on these, and the Report on a plan for organization of state and local societies—a measure fraught with the highest consequences to the well-being of the profession—are anticipated with great anxiety.

We believe that in future times, the formation of our National Association will be regarded as the most important epoch in the history of medicine in our country. It has already effected much good in stimulating and elevating the American medical mind. We know that the French Institute, the British Association, the Medico-Chirurgical Society of England, and others that we might mention, have all exercised an immense and continuous influence in their respective spheres, and we have a right to expect that a similar effect will follow our own organization.

To take our proper station in the commonwealth of science, we need hardly say that a higher literature than we have ever yet exhibited, is absolutely necessary—a literature which shall be, in some measure, the exponent of that mental activity and spirit of investigation which is so characteristic of the American people.

May we not expect, judging from the value of its Transactions already published, that our own Association will greatly tend to form and rapidly advance such a desirable result?

In our April number, under the head of Medical News, we inserted an article from the Buffalo Medical Journal, giving an account of the proceedings of the State Medical Society of New York. In this, the New York Medical College was stated to be in Fourteenth Street, and the University in Thirteenth Street—their locations should have been reversed.

RECORD OF MEDICAL SCIENCE.

Report of Eighteen Cases of Pemphigus. Under the care of Dr. BENNETT, Mr. SKEY, and Mr. STARTIN.

In England, pemphigus is a disease of considerable rarity. It is one, also, which, in many of its forms, is extremely obstinate and difficult to cure. It has yet found no monographist, and has, indeed, received but little attention, the whole of our published information respecting it consisting in a few scattered reports of cases, and in compilations from continental writers. The attempt, therefore, to bring together, in a short report, most of the cases that have recently come under our notice in the London Hospitals, may, it is hoped, not be found fruitless. As might be expected, a large majority of these cases have occurred at the Hospital for Skin Diseases. The following particulars of several of them (Cases 1, 3, 5, 6 and 7) are from notes kindly supplied to us by Mr. Tyler, a gentleman to whose labors in dermatology the pages of the *Medical Times and Gazette* have already, on more than one occasion, been indebted; the others are from our own.

Pemphigus (*the bullous disease*,—from *pemphis*, a bleb) is a disease about the diagnosis of which no difficulty exists, since any one who has either seen a case, or a good portrait of it, would be quite unable to confuse its features with those of any other. It was formerly separated into two varieties, under the names of pemphigus and pompholyx; but, as the distinction between them was founded merely on the different degree of chronicity, it has latterly been very properly discarded. The way, however, in which pemphigus has been divided by late writers, follow-

ing Rayer, into *acute* and *chronic*, is also liable to objection, since the so-called *acute* cases are almost invariably simply transient and benign, all the characters of severity, whether constitutional or local, being reserved for those of the chronic class. The subjects in connexion with the disease especially requiring elucidation are,—1st. The age, condition of health, etc., most liable to its attacks; 2ndly. The nature of the attendant symptoms; 3rdly. The predisposing causes; and 4thly. The treatment. [We omit the cases.]

Conclusions.—Examination of the more detailed notes before us, from which the preceding cases have been compiled, appears to warrant the following conclusions:—

1. That pemphigus is a disease affecting all periods of life; especially liable to occur between the ages of 4 and 25.
2. That, like many other skin diseases, it very frequently recurs in those who have once been its subjects.
3. That it usually affects those only of a fair complexion and thin skin. (To this we find no exception among the cases in which note has been made as to the complexion.)
4. That it is rather more common in the male than the female sex (10 to 8.)
5. That its severe chronic and relapsing forms are more frequent than the benign and transient.
6. That the parts most liable to be affected are the legs, arms, genitals, abdomen; seldom the face, and very rarely the hairy scalp.
7. That the serum of the bullæ is almost always alkaline. (It was tested in most of the cases, and no exception occurred; the alkalinity was generally very great.)
8. That it is very rarely a symptom of congenital, and perhaps never of acquired syphilis.
9. That it occurs commonly to those of good physical conformation, but is mostly coincident with temporary cachexia.
10. That is is not very markedly influenced by season.
11. That its idiopathic infantile form is a very mild disease, and will usually recover spontaneously.
12. That it is not, as a rule, associated with any particular form of cachexia. (In but two of the above cases were the patients scrofulous; none were known to be rheumatic, or to have had ague; dyspepsia was an attendant in but few.)
13. That the general indications are for the use of tonic regimen and generous diet, (Cases 13 and 14;) but that these will not suffice for the cure (Cases 3, 4 and 14).
14. That arsenic may be esteemed an almost specific remedy even in the worst class of cases, (2, 3, 4, 14, etc. etc.) [The careful perusal of the preceding series will, we think, convince the reader that this proposition is not too strongly put. Many of the patients were, when admitted under Mr. Startin's care, in a truly deplorable condition,—the disease had produced extreme irritation, it had lasted for many months or years, it had resisted all sorts of treatment previously. In every in-

stance but two (Cases 3 and 15) the most marked benefit attended the adoption of the arsenical plan.]

15. That arsenic does not merely repress the eruption, but remedies the unknown constitutional cause on which that symptom depends, always very much benefitting the general health of the patient.

16. That arsenic does not prevent the liability to subsequent attacks, but that such attacks are always much less severe than the original one, and tend, if treated by the same remedy, to diminish in intensity on each successive occasion.

17. That the early age of the patient does not in the least forbid resort to the arsenical treatment.

Those acquainted with the literature of this subject will observe, that the above conclusions differ considerably in some respects from the statements to be found in books. The disease itself may probably differ somewhat in London and on the Continent. Gilibert, whose monograph on it is the best extant, appears, for instance, to have met with but three examples of chronic pemphigus, all of them in elderly and enfeebled subjects. A current opinion has accordingly prevailed, that that form is almost peculiar to the aged, while the fact is, as we have above shown, that in London, at any rate, the young are much more frequently its subjects. Cases of relapsing pemphigus, or those in which the disease has extended over many years, do not appear to have attracted much notice from previous writers. Pemphigus is not known to prevail endemically in any part of England; on the contrary, it seems to be about equally scattered over all districts. Two cases came under our notice in York some years ago, and during the last summer we saw a very well-marked case in the Leeds Infirmary, under the care of Mr. Samuel Hey. Mr. Hey informed us, that the disease was very rare in Leeds, and that he had, during many years, seen but that one example. There does not appear to be much foundation for the opinion that the disease prevails most in damp localities, and on the banks of rivers. Such a notion is supported by but a small proportion of the above cases. The preceding series probably scarcely presents the benign and chronic forms in their due proportions as to frequency of occurrence, since cases of the former are often of so transient a character that they never come under care at Hospitals. With regard to the treatment of the chronic form by arsenic, we have recorded *all* that we have seen. A case has been mentioned to us, however, by a gentleman of very careful observation, in which the arsenic is stated to have quite failed to cure the disease, while it seriously interfered with the patient's (a child) health. We have not obtained particulars as to administration, etc.

The disease known in London as Rupia escharotica, but described by Dr. Corrigan as a form of infantile pemphigus, has been altogether omitted in the above, and is reserved for a future report. Whatever may be said of its primary stage, its after-course has no sort of resemblance to pemphigus.—*Med. Times and Gazette.*

Abstract of Meteorological Observations for March, 1854, *made at Philadelphia, Pa. By* PROF. JAMES A. KIRKPATRICK.

1854. March.	Barometer. Daily Mean.	Thermometer. Daily Mean.	Thermometer. Daily Range.	Dew point. 2 P. M.	Prevailing Winds.	General Remarks.
	Inches.	deg.	deg.	deg.	Points.	
1	30.148	38.5	13	31.0	(Var.)	M. cloudy, aft. and ev. clear.
2	30.093	43.0	16	39.3	N.E.	Aft. drizzling; *Rain* .018 in.
3	29.749	50.0	14	43.0	N.N.E.	*Rain* 8 to 9 A.M., .042 in.
4	29.743	49.5	9	34.0	S.W.	M. and ev. clear, aft. cloudy.
5						Observations missed.
6	30.100	40.0	14	28.3	N.W.	M. and aft. clear, ev. cloudy.
7	29.893	46.0	13½	45.0	(Var.)	Cloudy.
8	29.488	52.5	9	52.3	N.E.	*Rain* 6½ to 10½ A.M., .256 in. ev. clear.
9	29.685	47.5	5	45.3	E.N.E	*Rain* 9A.M. till night, .373 in.
10	29.507	51.5	17	57.7	N.E.	Cloudy, ev. *Rain*, .255 in.
11	29.940	47.0	8	32.3	N.	M. & aft. cloudy, ev. clear.
12	30.153	46.0	20	35.0	S.W.	Clear.
13	29.981	52.0	24	40.7	S.W.	Cloudy.
14	29.779	60.5	19	46.7	S.W.	M. cloudy, aft. & ev. clear.
15	29.763	58.5	15	45.0	S.W.	Cloudy.
16	29.393	65.5	19	44.7	S.W.	M. and aft. cloudy, ev. clear; *Rain* 4¼ to 4¾ P.M., .003 in. Therm. highest 75 deg.
17	29.392	55.5	17	29.0	S.W.	M. clear, aft. & ev. cloudy; ev'ng. high wind; Barom. lowest 29.158.
18	29.735	32.0	8	24.3	N.W.	Clear, high wind all day.
19	30.063	30.0	14	20.7	W.	Clear.
20	30.044	33.0	10	24.0	N.W.	M. & ev. clear, aft. cloudy.
21	30.174	29.5	14	25.3	W.	Clear.
22	29.878	34.0	4	31.3	E.	Cloudy, *Rain* all the aft. and till about 5 A.M., .345 in. Therm. lowest 22 deg.
23	29.502	43.0	16	41.7	N.W.	Evening clear.
24	29.522	37.0	10	25.7	(Var.)	M. & aft. cloudy, ev. clear.
25	29.629	29.0	6	27.3	W.N.W.	M. & ev. clear, aft. cloudy.
26	29.683	32.0	10	25.3	N. W.	Clear.
27	29.883	32.0	12	17.0	W.N.W.	Clear.
28	30.046	28.5	7	29.7	N.W.	M. & aft. cloudy, ev. clear.
29	30.193	30.0	14	23.0	N.W.	Clear; Bar. highest 30.260.
30	30.131	33.0	6	33.7	E.N.E.	*Snow* 9½ A.M till 5½ P.M 112 in.
31	29.979	40.0	6	40.7	N.E.	Drizl'ng *rain* all day .220 in.
Monthly Mean 1854	29.842	42.2	53	34.6	NW.SW.	1.625 inches rain.
Monthly Mean 1853	29.873	41.8	53	32.7	WNW.WSW.	2.460 do. do.
Monthly Mean 1852	29.900	43.1	49	35.9	SW.NW.	4.270 do. do.
Monthly mean for 3 years.	29.872	42.4	52	34.4	SW.NWW.	2.785 inches.